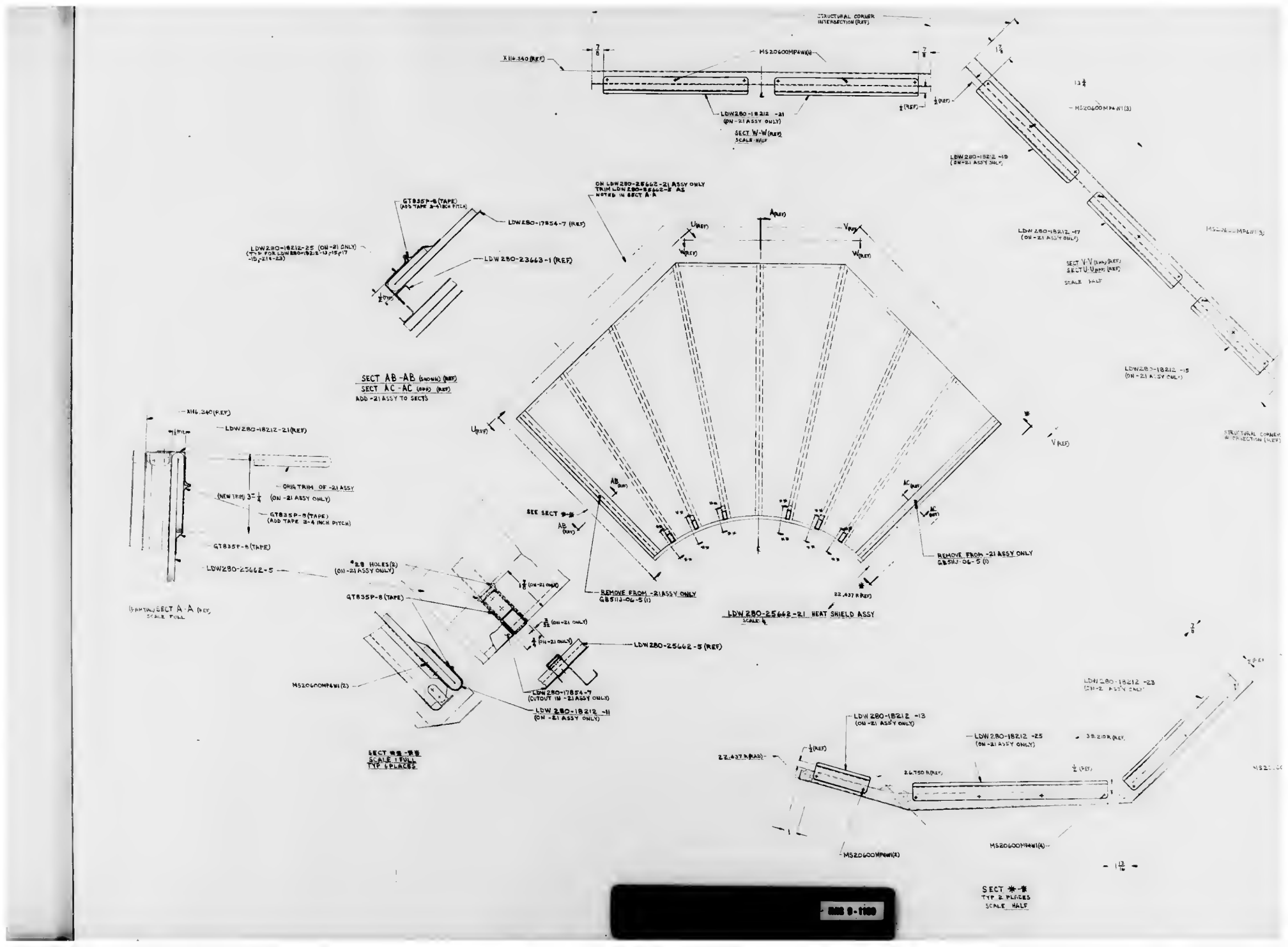
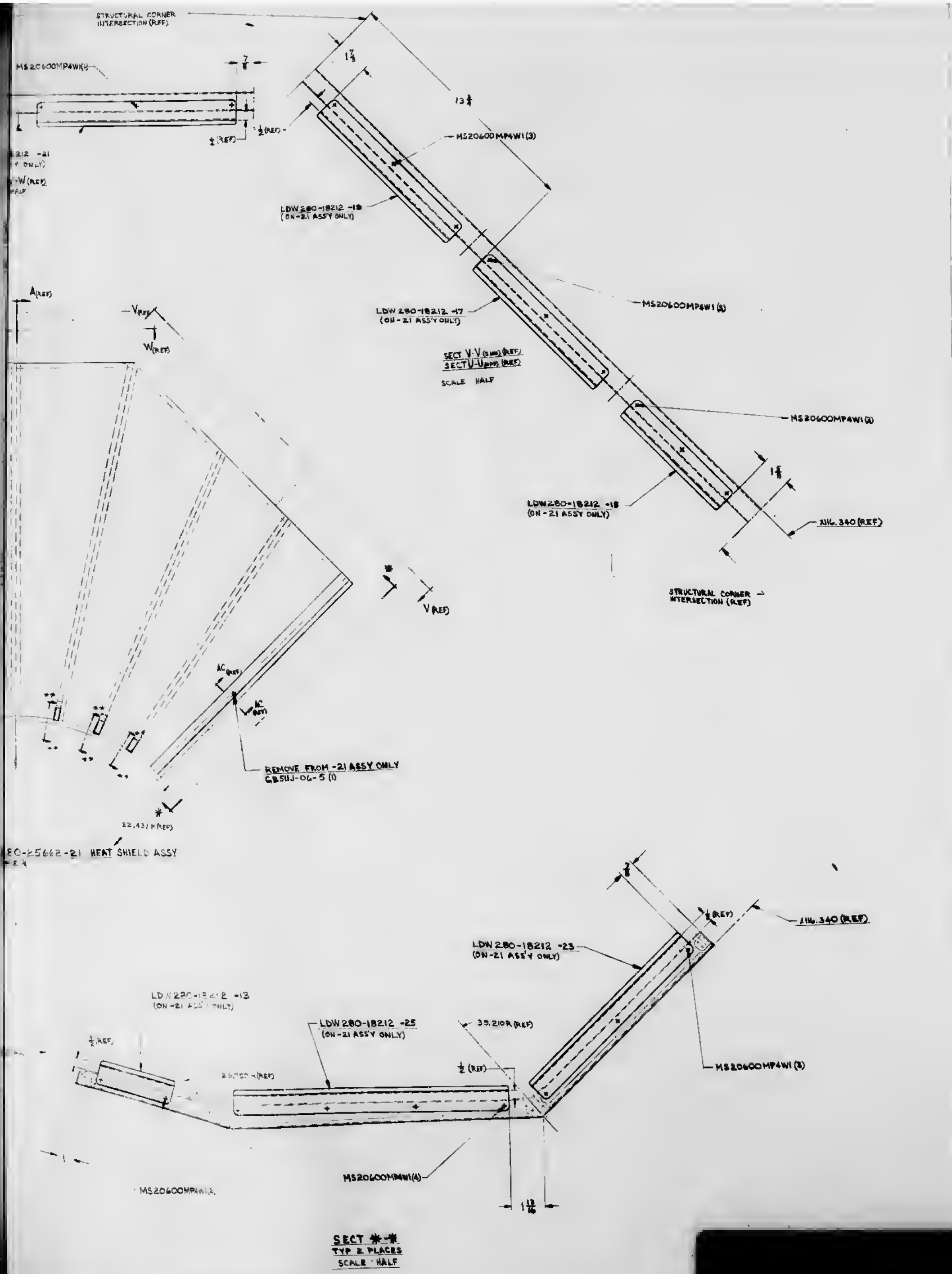

STRUCTURAL CORNER INTERSECTION (REF)
X116.340 (REF)
MS20600MP4W1(4)
LDW280-18212 -21 (ON -21 ASSY ONLY)
SECT W-W (REF) SCALE HALF
LDW280-18212 -19 (ON -21 ASSY ONLY)
MS20600MP4W1(3)
LDW280-18212 -17 (ON -21 ASSY ONLY)
SECT V-V (RAD) (REF) SECT U-U (REF)
SCALE HALF
LDW280-18212 -15 (ON -21 ASSY ONLY)
GT835P-8 (TAPE) (ADD TAPE 2-4 INCH PITCH)
LDW280-17854-7 (REF)
LDW280-23663-1 (REF)
LDW280-18212-25 (ON -21 ONLY) (SIM TO FOR LDW280-18212-13 -15 -17 -19, -21 & -23)
ON LDW280-25662-21 ASSY ONLY TRIM LDW280-25662-5 AS NOTED IN SECT A-A
SECT AB-AB (SHOWN) (REF)
SECT AC-AC (OPP) (REF)
ADD -21 ASSY TO SECTS
X116.340 (REF)
LDW280-18212-21 (REF)
ORIG TRIM OF -21 ASSY (ON -21 ASSY ONLY)
(NEW TRIM) 3 1/4
GT835P-8 (TAPE)
(ADD TAPE 2-4 INCH PITCH)
GT835P-8 (TAPE)
LDW280-25662-5
(PARTIAL) SECT A-A (REF) SCALE FULL
*8.8 HOLES (2) (ON -21 ASSY ONLY)
GT835P-8 (TAPE)
MS20600MP4W1(2)
LDW280-17854-7 (CUTOUT IN -21 ASSY ONLY)
LDW280-18212 -11 (ON -21 ASSY ONLY)
SECT **-** SCALE FULL TYP 6 PLACES
SEE SECT *-*
REMOVE FROM -21 ASSY ONLY GBS11J-06-5 (1)
22.437 R (REF)
LDW280-25662-21 HEAT SHIELD ASSY SCALE 1/4
REMOVE FROM -21 ASSY ONLY GBS11J-06-5 (1)
LDW280-18212 -13 (ON -21 ASSY ONLY)
LDW280-18212 -25 (ON -21 ASSY ONLY)
38.210 R (REF)
22.437 R (RAD)
24.750 R (REF)
MS20600MP4W1(4)
MS20600MP4W1(2)
SECT *-* TYP 2 PLACES SCALE HALF



QTY PER ASSY	-21	PART NO	1&T	DESCRIPTION	MATERIAL	
	20	GB511J-06-5	E	BOLT	GRUMMAN STD	WAS 22
	1	LDW280-25662-5	E	LO-TEMP BLANKET ASSY		(REF) REWORK ON -21 ONLY
	1	LDW280-17054-7	E	SKIN ASSY	SEE DWG	(REF) REWORK ON -21 ONLY
	[illegible]	GT9357-6	E	POLYIMIDE TAPE	GRUMMAN STD	(REF)
	54	MS20600MP4W1	E	RIVET	STD PART	ADD
	2	LDW280-18212-25	E	ANGLE	SEE DWG	
	2	-23	E			
	2	-21	E			
	2	-19	E			
	2	-17	E			
	2	-15	E			
	2	-13	E	ANGLE		
	6	LDW280-18212 -11	E	CLIP	SEE DWG	ADD
		LDW280-25662-21	E	HEAT SHIELD ASSY		

LM	LSK280-10986	QUAL TEST (70)	1	WAS 2
MODEL	NEXT ASSY	MODULE	REQD/MOD	
PART NO. LDW280-25662-21				

-, **-** -USE NEXT AVAILABLE SECT LETTERS

LDW 280A-3809

BLANKET EDGE SUPPORT FOR QUAL TEST

ADDED LDW 280-18212-11,-13,-15,-17,-19,-21,-23 & -25 & MS20600MP4W1(54) TO LDW280-25662-21 ASSY. 1 REQD/MOD OF LDW280-25662-21 WAS 2 REQD. REMOVED GB511J-06-5(2) FROM -21 ASSY; ADDED SECT *-* & SECT **-** ... CUTOUTS IN LDW280-17054-7 ON -21 ASSY ONLY ... REMOVED -21 ASSY FROM DETAIL ... ADDED -21 ASSY TO SECTS ...

LM — QUAL TEST (70)

C — HEAT SHIELD ASS'Y DESCENT STAGE - REMOVABLE BASE

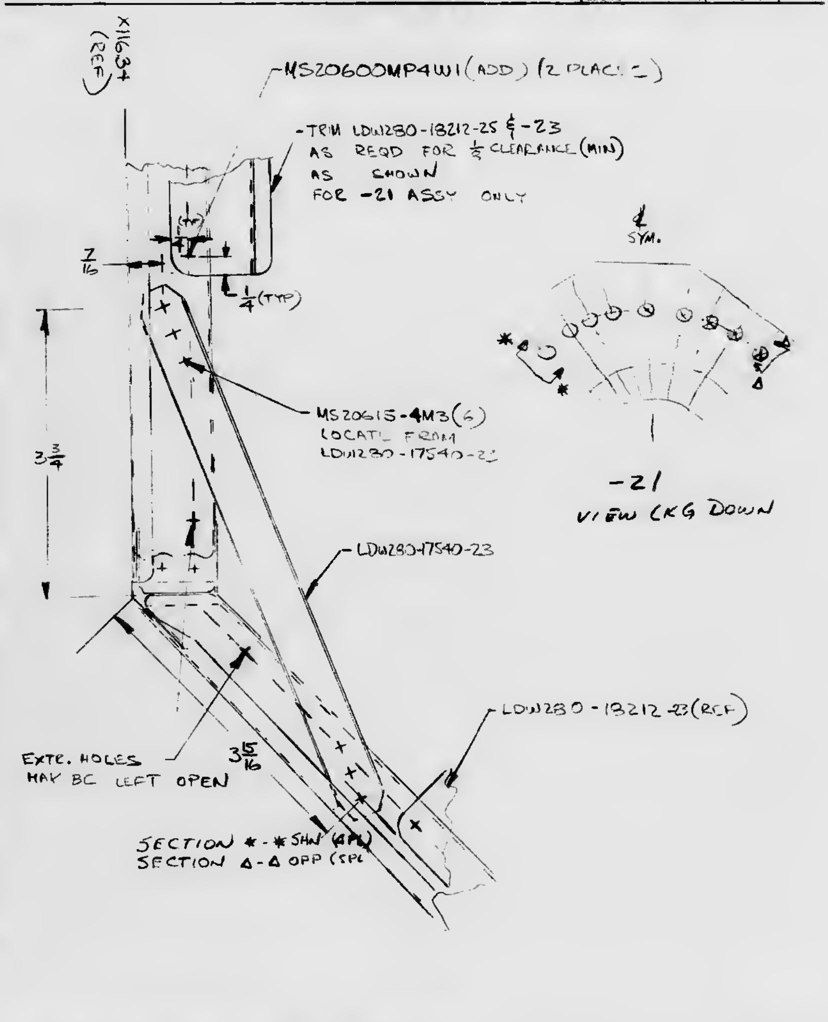
LDW280-25662 — C5

V.A. CHRISTINA
J. STRAKOSCH
VDI
335

GRUMMAN AIRCRAFT ENGINEERING CORP

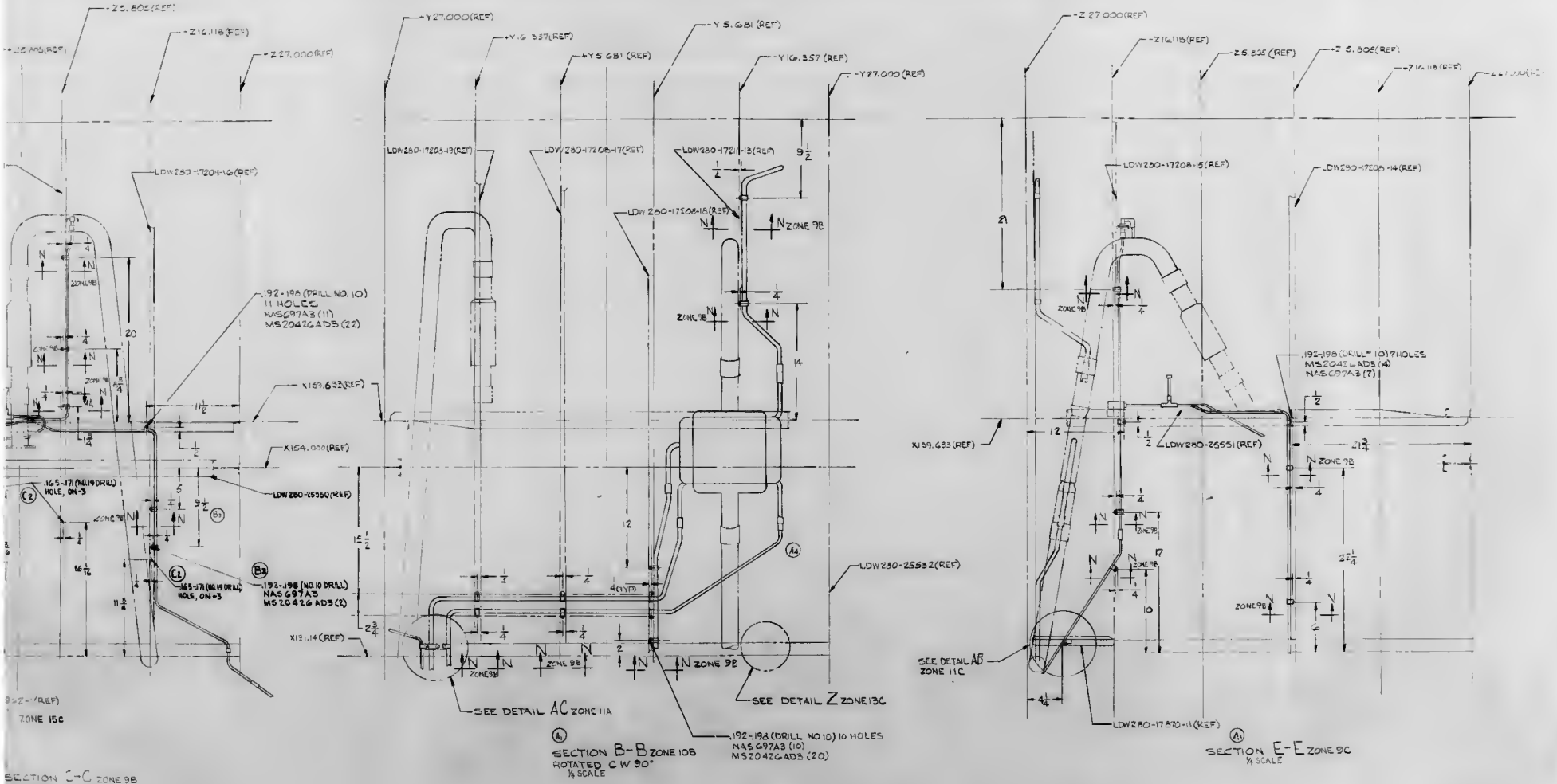
GRUMMAN AIRCRAFT ENGINEERING CORP.
CODE IDENT NO. 26512
ENGINEERING ORDER

DWG. NO. LDW280-25642 | EO NO. E1
CONTROL INFO NO. LDW280A 5344



LCR #960		
REASON FOR EO: ADD'L LENGTH REQD LCR 960	DESCRIPTION OF EO: ON -21 ADD LDW280-17540-23 (3), MS20615-4M3 (54) MS20600MP4W1 (4) SECT *-* & Δ-Δ, TRIM LDW280-18212-25	
MODEL: LM	EFFECTIVITY: QUAL TST (10)	
PRIORITY: C	DRAWING TITLE: SHIELD ASS'Y	DRAWING NO: LDW280-25642 / EO NO. E1

ISSUED BY ____ SECTION ____ GROUP NO. ____ PL ____


Z 27.000(REF)
Z16.118(REF)
Z 5.805(REF)
LDW280-17208-16(REF)
.192-.198 (DRILL NO. 10)
11 HOLES
NAS697A3 (11)
MS20426AD3 (22)
X159.633(REF)
X154.000(REF)
.165-.171 (NO.19 DRILL)
HOLE, ON-3
LDW280-25550(REF)
.192-.198 (NO.10 DRILL)
NAS697A3
MS20426AD3 (2)
X131.14(REF)
ZONE 15C
SECTION C-C ZONE 9B
ROTATED C.W. 180°
1/4 SCALE
Y27.000(REF)
Y16.357(REF)
Y5.681(REF)
LDW280-17208-19(REF)
LDW280-17208-17(REF)
LDW280-17211-13(REF)
LDW280-17208-18(REF)
ZONE 9B
.192-.198 (DRILL NO.10) 10 HOLES
NAS697A3 (10)
MS20426AD3 (20)
LDW280-25552(REF)
SEE DETAIL AC ZONE 11A
SEE DETAIL Z ZONE 13C
SECTION B-B ZONE 10B
ROTATED C.W. 90°
1/4 SCALE
LDW280-17208-15(REF)
LDW280-17208-14(REF)
.192-.198 (DRILL NO.10) 7 HOLES
MS20426AD3 (4)
NAS697A3 (7)
LDW280-25551(REF)
SEE DETAIL AB
ZONE 11C
LDW280-17870-11(REF)
SECTION E-E ZONE 9C
1/4 SCALE

GRUMMAN AIRCRAFT ENGINEERING CORP.
CODE IDENT NO. 26512

LIAISON ENGINEERING 4/5

ENGINEERING ORDER

DWG. NO. LDW280-25680 | EO NO. B1

CONTROL INFO NO. LEM-5-7850

-1 INSTL -
RELOCATE LDW280-17769-15 & ADD LDW280-17769-17 DOUBLER TO B/M 6 F/D AS SHOWN:

1/32

LDW280-17769-15 (REF)

MS20470DD4(7) (REF)

(ADD) LDW280-17769-17

(ADD) MS20470DD4 (7)

3/16

VIEW E-E (REF)

REWORK NOTE:
IF HOLES HAVE ALREADY BEEN WELLED IN OLD LOCATION, FLUSH WELD BOTH SIDES USING MS20426AD4

CHANGE ALL OTHER VIEWS TO AGREE WITH CHANGE.

5

REASON FOR EO: INTERFERENCE WITH STEP ON ASCENT EQUIPMENT PORT

DESCRIPTION OF EO: -1 INSTL, ADDED LDW280-17769-17, MS20470DD4(7); RELOCATED LDW280-17769-15.

VEHICLE NO.	EFFECTIVITY: INCORPORATED NOW NO.	EFFECTIVITY: SALE UNIT NO	EFFECTIVITY: SUB CONFIG UNIT NO
LEM		LTA-5(15)	
		LTA-5(18)	
		LEM-1(21)	

DRAWING CHANGE REQD: REVISE DWG ✓; RECORD EO
DISPOSITION OF PARTS: REWORK ✓; SCRAP

APPROVED BY	DATE	SUPPORT	RELIAB GROUP	GROUP LEADER	STRESS GROUP	LIAISON ENG'G	PROJ ENGR
[illegible]	7-29-66	VDC					

PRIORITY: C6

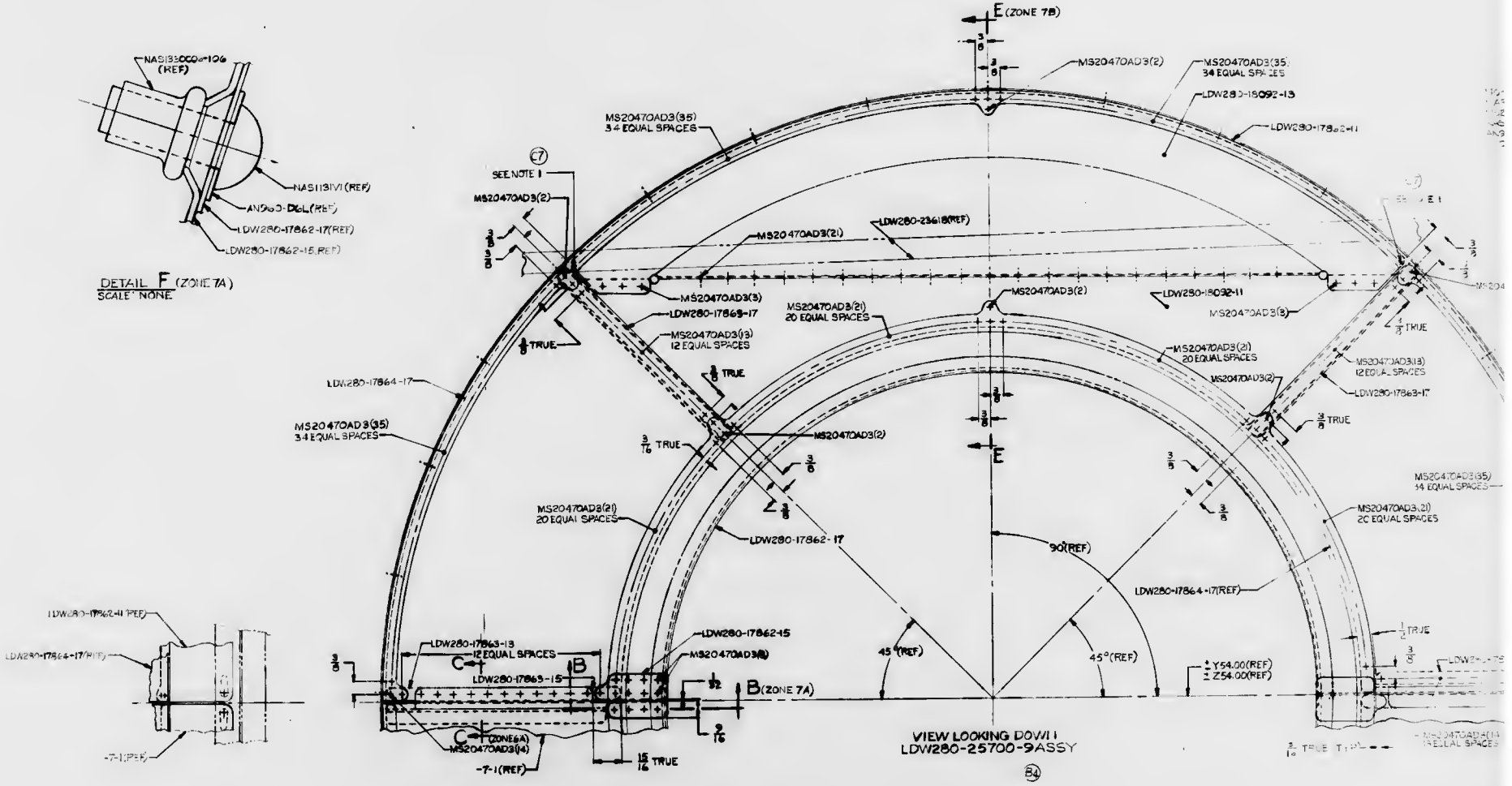
DRAWING TITLE: BRACKET INSTL - D/S - S/C H2 EQUIP TEST STAND & LINES SUPPORT

DRAWING NO.: LDW280-25680

ORIGINATED BY: ERICSON J. McCAIL 7-29-66

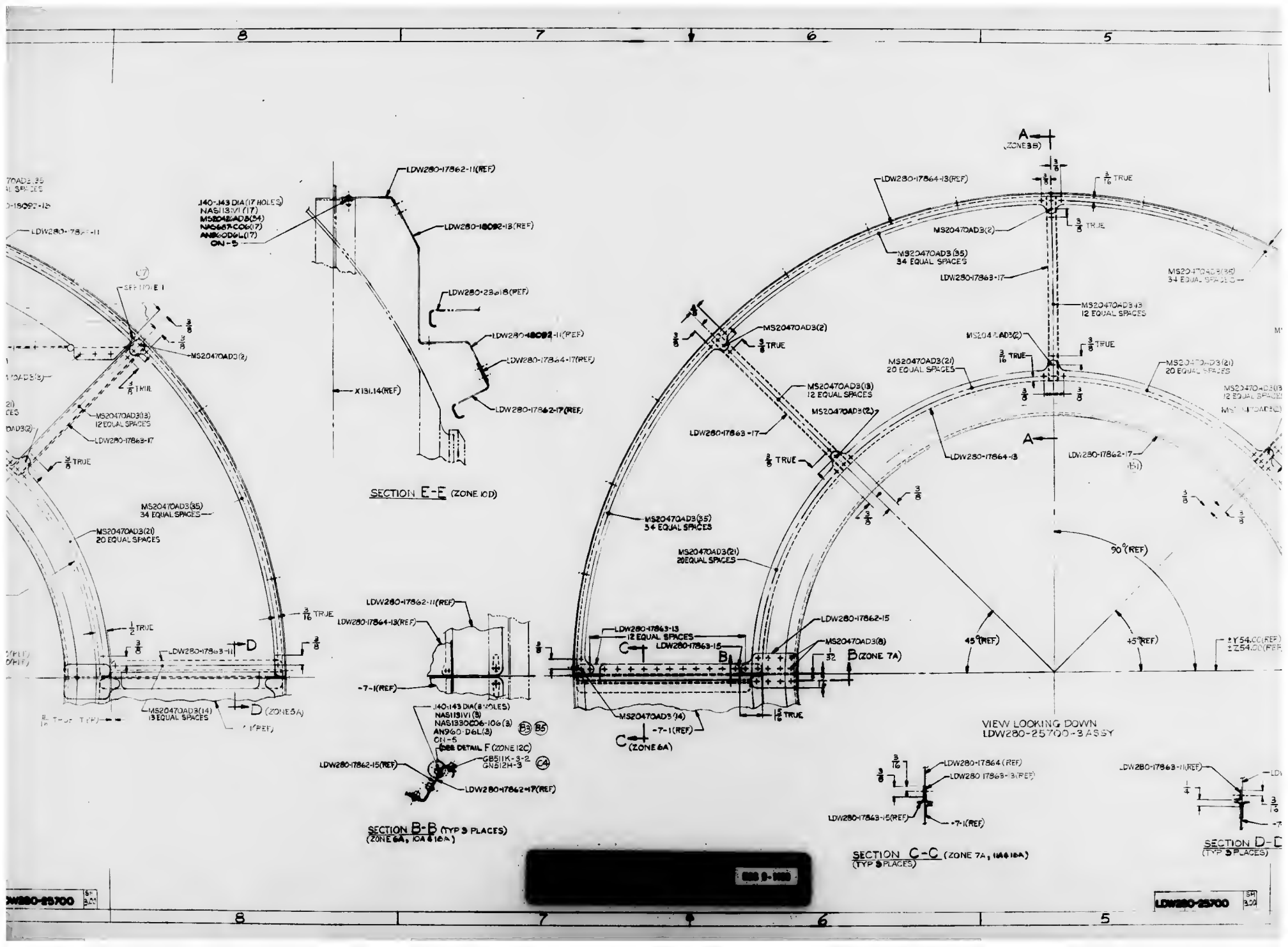
SECTION VDC GROUP NO. PL

225

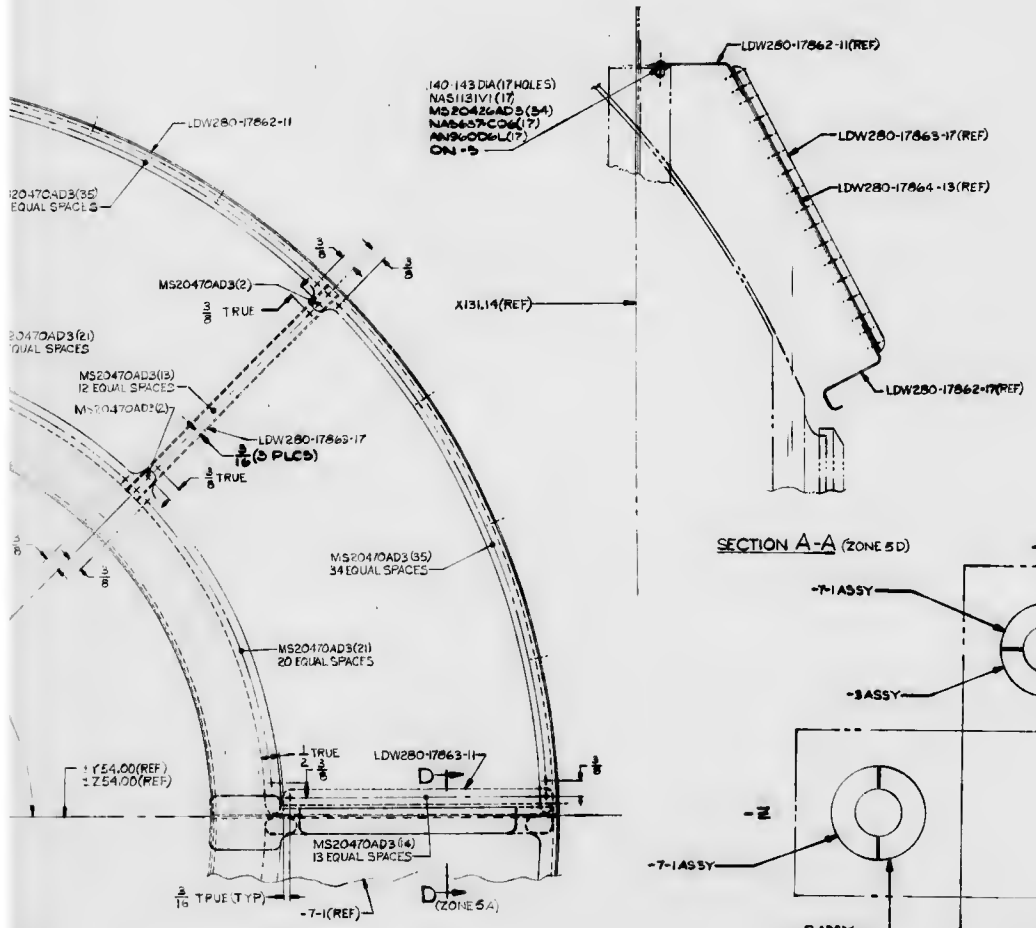


[redacted]

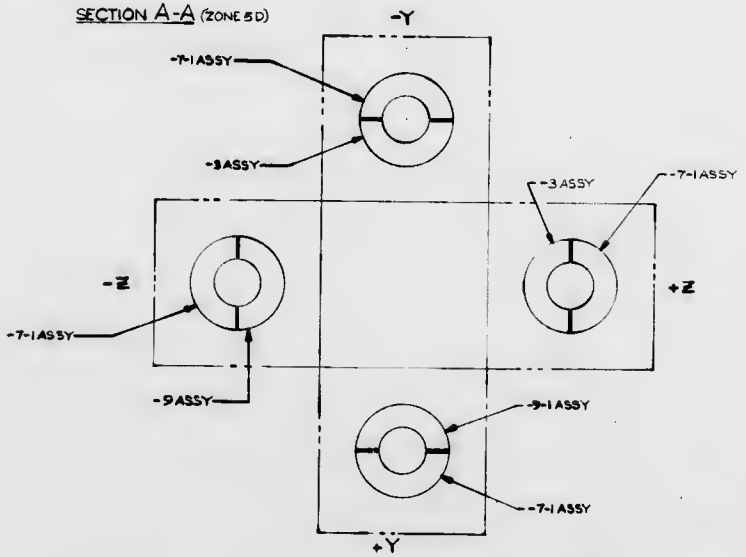
LDW280-25700 SH 5.00


LDW280-17862-11(REF)
.140-.143 DIA (17 HOLES)
NAS1131VI (17)
MS20426AD3(34)
NAS667-C06(17)
AN960D6L(17)
CN-5
LDW280-18092-13(REF)
LDW280-23618(REF)
LDW280-17864-17(REF)
LDW280-17862-17(REF)
X131.14(REF)
SECTION E-E (ZONE 10D)
MS20470AD3(2)
MS20470AD3(13)
12 EQUAL SPACES
MS20470AD3(35)
34 EQUAL SPACES
MS20470AD3(21)
20 EQUAL SPACES
LDW280-17863-17
LDW280-17863-11
D (ZONE 3A)
LDW280-17862-11(REF)
LDW280-17864-13(REF)
-7-1(REF)
.140-.143 DIA (8 HOLES)
NAS1131VI (3)
NAS1330C06-106(3)
AN960-D6L(3)
CN-5
SEE DETAIL F (ZONE 12C)
GB511K-3-2
GN512H-3
LDW280-17862-15(REF)
LDW280-17862-17(REF)
SECTION B-B (TYP 3 PLACES)
(ZONE 6A, 10A & 16A)
LDW280-17863-13
12 EQUAL SPACES
LDW280-17863-15
LDW280-17862-15
MS20470AD3(8)
B (ZONE 7A)
C (ZONE 6A)
VIEW LOOKING DOWN
LDW280-25700-3 ASSY
LDW280-17864(REF)
LDW280-17863-3(REF)
LDW280-17863-15(REF)
SECTION C-C (TYP 5 PLACES) (ZONE 7A, 11A & 15A)
LDW280-17863-11(REF)
SECTION D-D
(TYP 5 PLACES)
LDW280-25700

NOTES:
1. ON -9 ASSY EXTRANEOUS HOLES MAY BE LEFT OPEN.

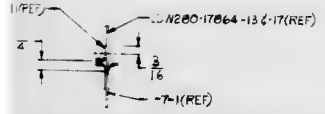


SECTION A-A (ZONE 5D)



B4 E7

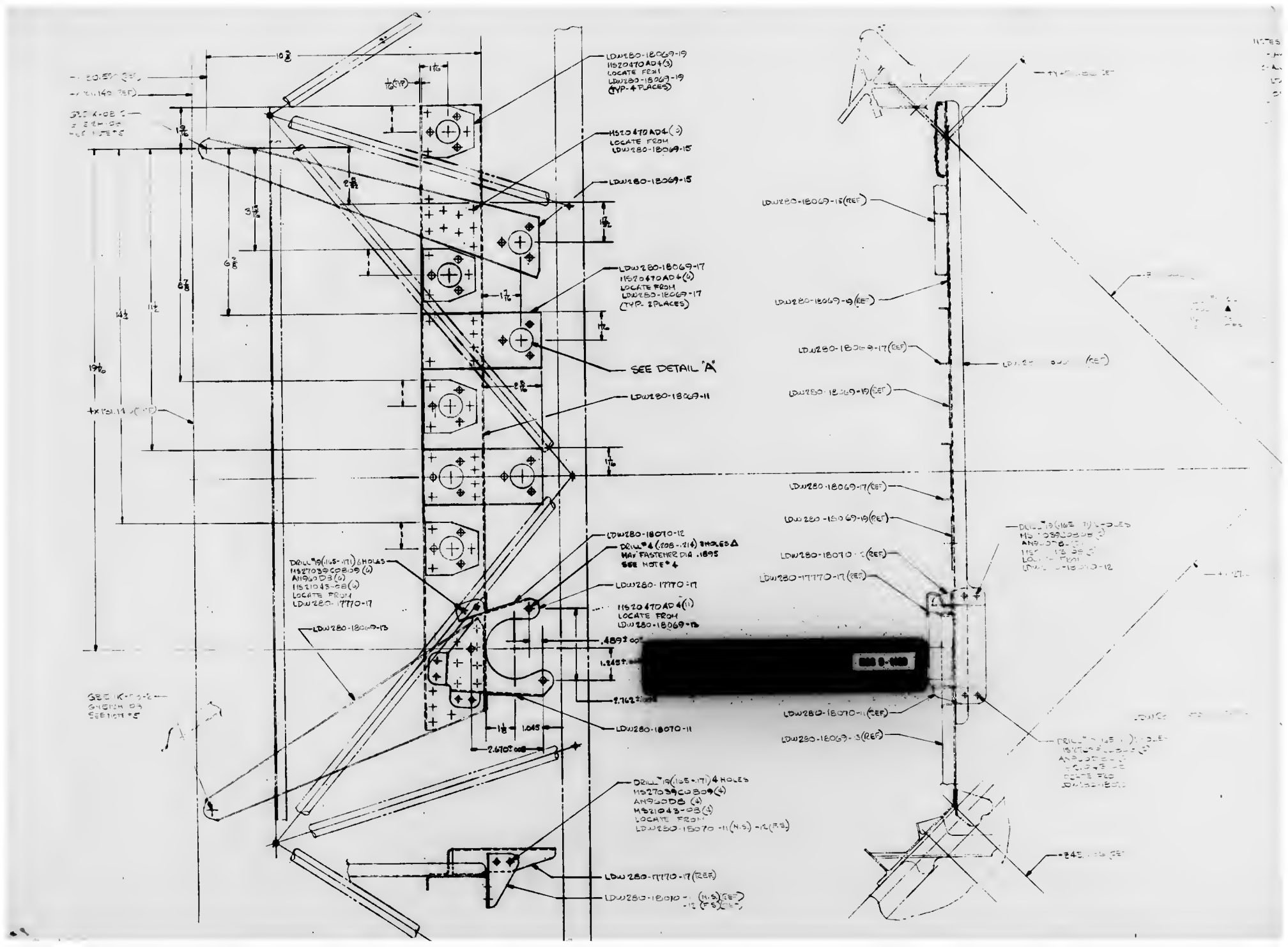
LDW280-25700-5 INSTL
VIEW LOOKING UP
SCALE, NONE



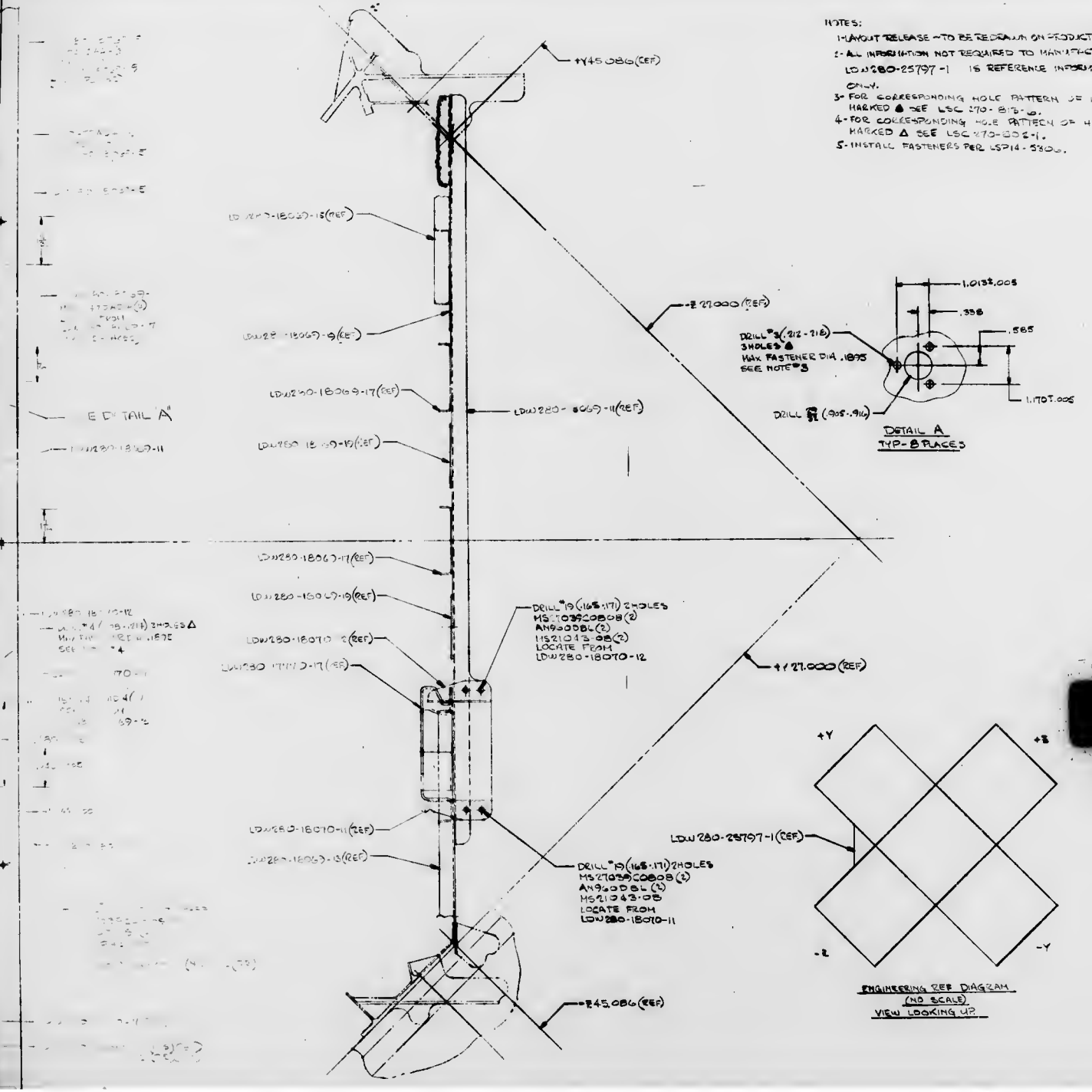
SECTION D-D (ZONE 4A, 8A & 15A)
(TYP 5 PLACES)

[redacted]

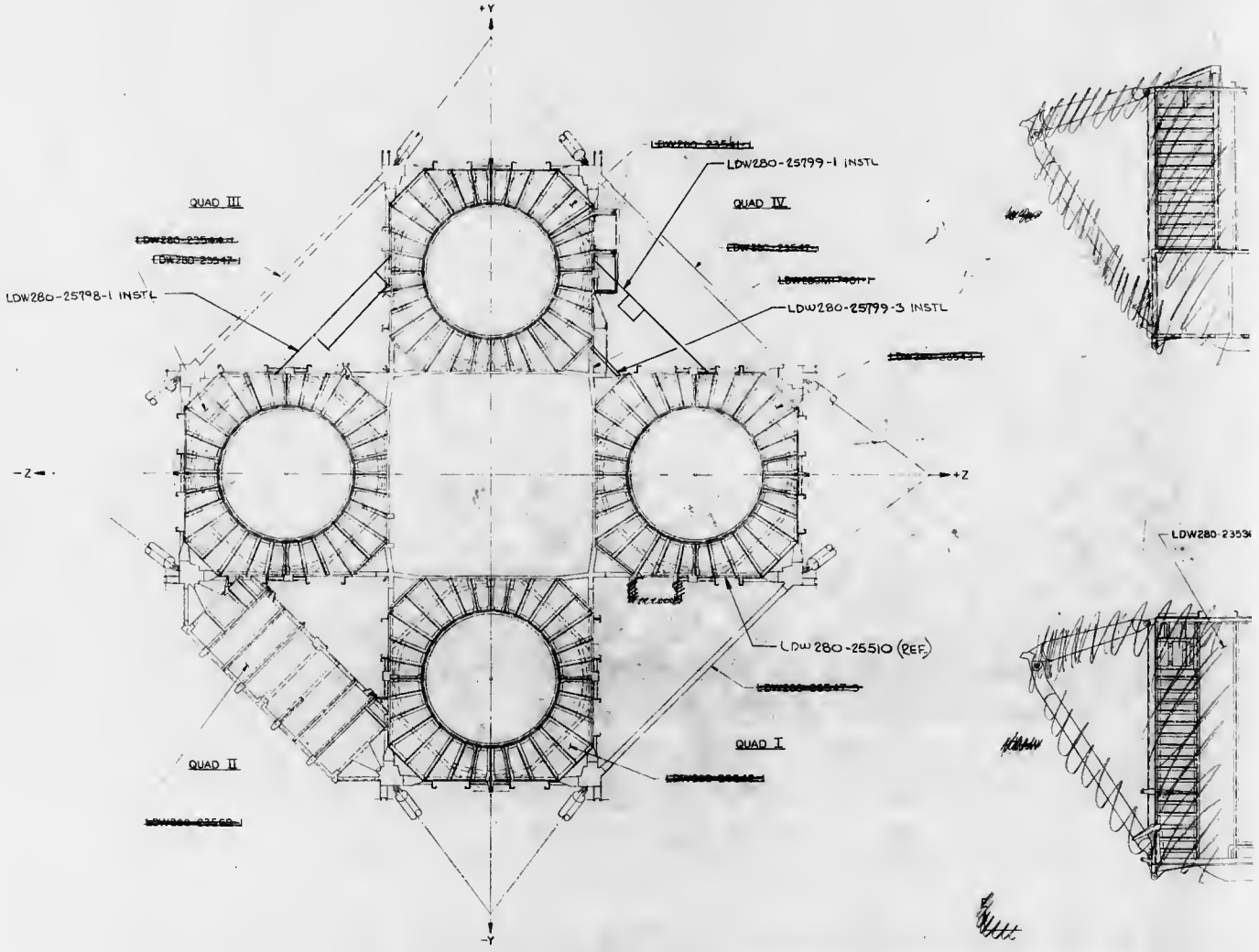
		J 28522	LDW280C5700 C


LDW280-18069-19
MS20470AD4(3)
LOCATE FROM
LDW280-18069-19
(TYP-4 PLACES)
MS20470AD4(-)
LOCATE FROM
LDW280-18069-15
LDW280-18069-15
LDW280-18069-17
MS20470AD4(4)
LOCATE FROM
LDW280-18069-17
(TYP- 2PLACES)
SEE DETAIL "A"
LDW280-18069-11
LDW280-18070-12
DRILL #4 (.208-.214) 2HOLES
MAY FASTENER DIA .1895
SEE NOTE #4
DRILL #9(.185-.191) 6HOLES
MS27039C0809(4)
AN960D8(4)
MS21043-08(4)
LOCATE FROM
LDW280-17770-17
LDW280-17770-17
MS20470AD4(1)
LOCATE FROM
LDW280-18069-13
LDW280-18069-13
.489
1.245
2.762
LDW280-18070-11
1.045
2.670
DRILL #9(.185-.191) 4 HOLES
MS27039C0809(4)
AN960D8 (4)
MS21043-08(4)
LOCATE FROM
LDW280-18070-11(N.S)-12(F.S)
LDW280-17770-17(REF)
LDW280-18070-11(N.S)(REF)
-12(F.S)(REF)
LDW280-18069-15(REF)
LDW280-18069-19(REF)
LDW280-18069-17(REF)
LDW280-18069-17(REF)
LDW280-18069-19(REF)
LDW280-18070-12(REF)
LDW280-17770-17(REF)
LDW280-18070-11(REF)
LDW280-18069-13(REF)

NOTES:
1- LAYOUT RELEASE - TO BE REDRAWN ON PRODUCTION FORMAT.
2- ALL INFORMATION NOT REQUIRED TO MANUFACTURE LDW280-25797-1 IS REFERENCE INFORMATION ONLY.
3- FOR CORRESPONDING HOLE PATTERN OF HOLES MARKED ▲ SEE LSC 270-813-10.
4- FOR CORRESPONDING HOLE PATTERN OF HOLES MARKED △ SEE LSC 270-8026-1.
5- INSTALL FASTENERS PER LSP14-5306.



THIS IS AN ORIGINAL DRAWING


+Y
-Y
-Z
+Z
QUAD III
QUAD IV
QUAD II
QUAD I
LDW280-25798-1 INSTL
LDW280-25799-1 INSTL
LDW280-25799-3 INSTL
LDW280-25510 (REF.)
LDW280-23536-1
LDW280-23547-1
LDW280-23548-1
LDW280-23549-1
LDW280-23550-1
LDW280-23551-1
LDW280-23552-1
LDW280-23553-1
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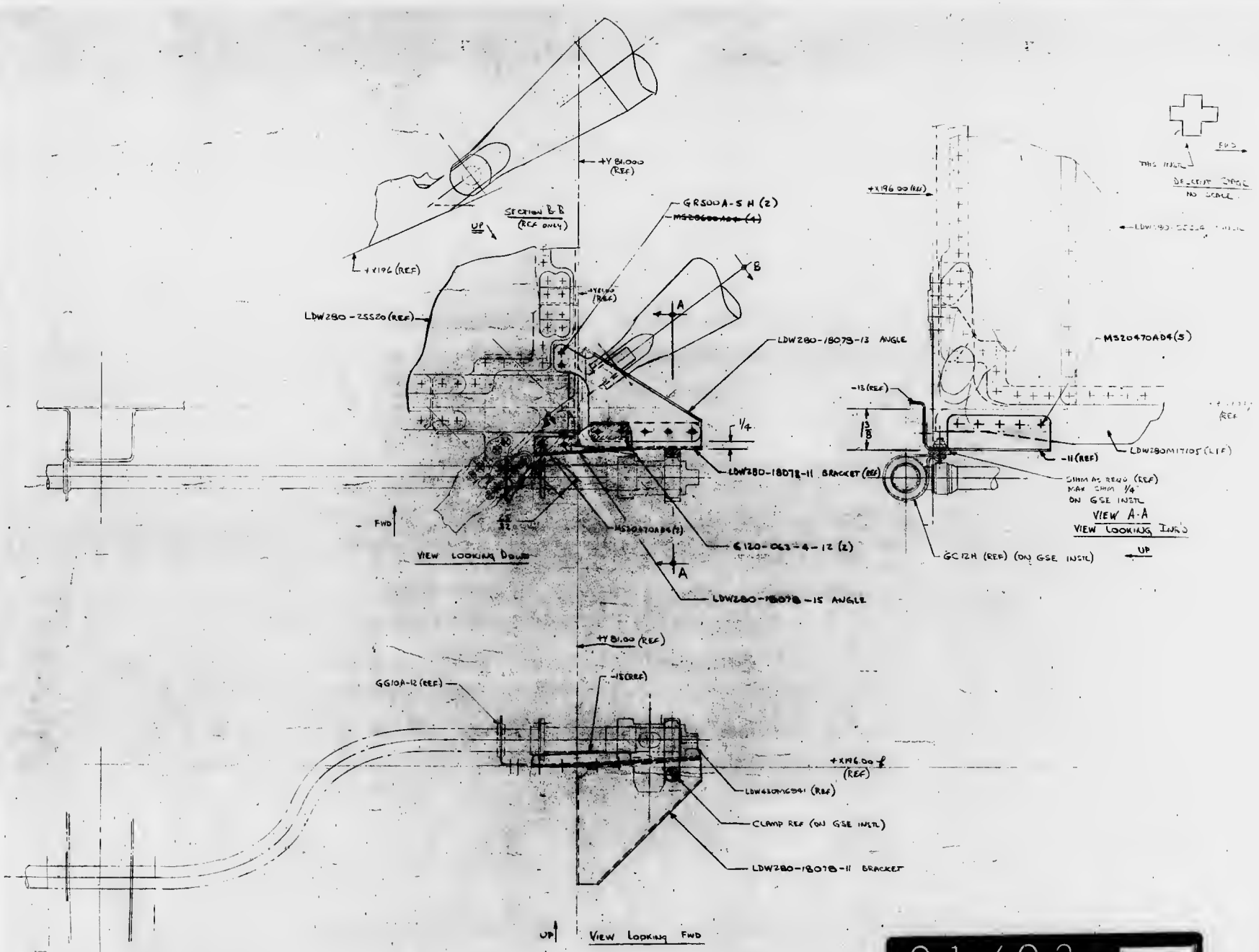
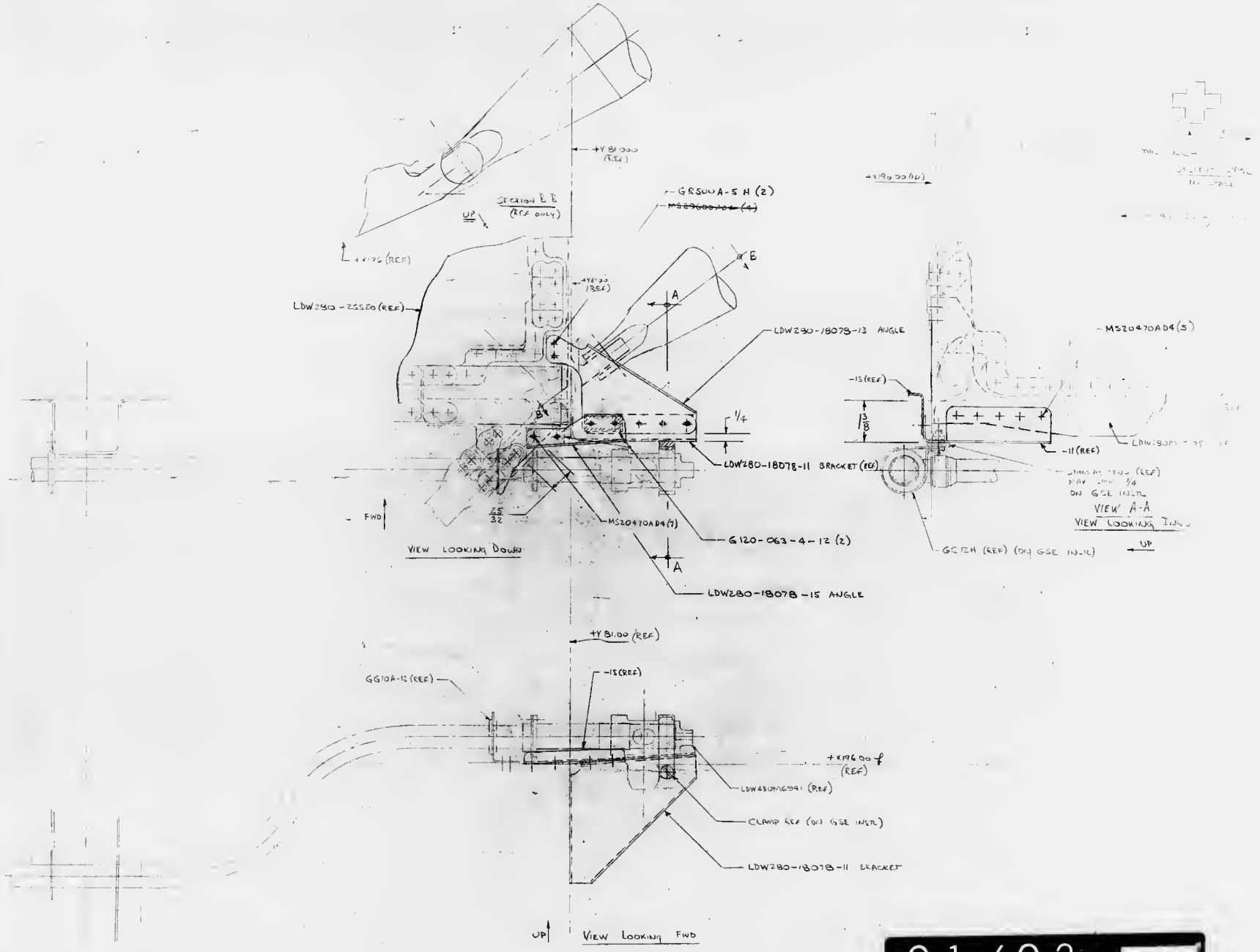
LDW280-23586-1

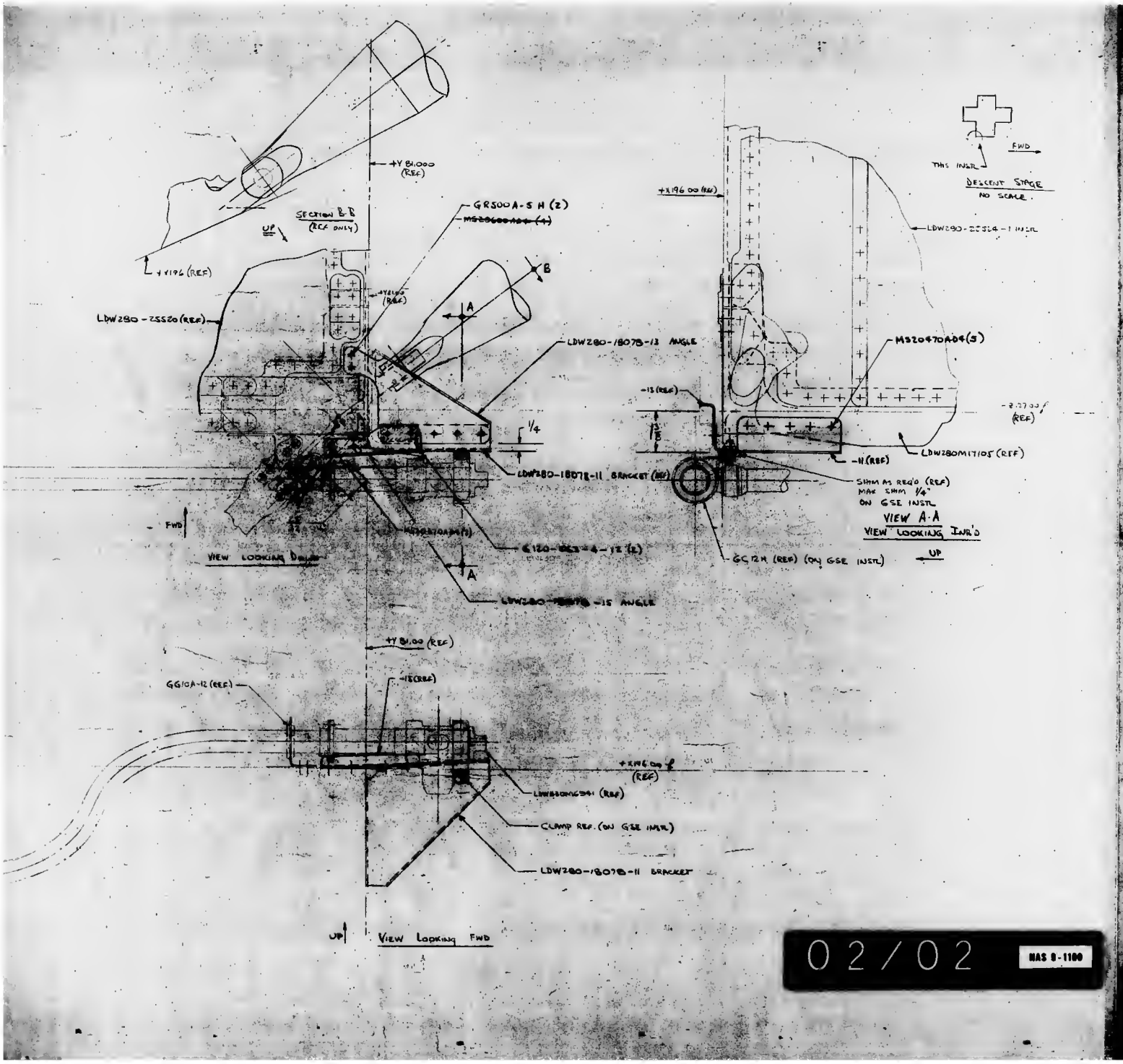


01/02

NAS 8-1100



01/02 NAS 9-1100



MANUFACTURING OPERATIONS

UNLESS OTHERWISE SPECIFIED NOTES CHECKED √ APPLY TO THIS DWG.

PART NUMBER AND ALL OTHER MARKINGS TO BEGIN MARKED [ ] USE DOWN SIDES IF NECESSARY.

FILLET AND INSIDE CORNER RADII TOLERANCES
.XXR TO .XX ± .010
.XXR TO .XXR ± .015
OVER .2XR ± .030

DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS. 2-3 THP THDS. BEYOND PERMISSIBLE

EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 IMPERFECT THREADS MAX.

DO NOT CADMIUM PLATE & PAINT HOLES ON SURFACES MARKED WITH DOUBLE ASTERISK.

SCRATCH STEP OF ± .005 PERMISSIBLE DUE TO CHANGE OF CUTTERS AT INSIDE INTERSECTING SURFACES.

DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING

HOLES MUST BE KEPT FREE OF CHROME PLATING SOLUTION.

ALL DIMENSIONS GIVEN TO BE MET AFTER CADMIUM PLATING. THICKNESS OF PLATE .0005 MIN. TO .0015 MAX. MIN. THICKNESS TO BE .0010 ON THREADED AREAS. NO ALLOWANCE FOR PLATING IN HOLES

125 SURFACE ROUGHNESS INCLUDING REAMED HOLES PER RES-STD-19

32 FOR ALL DRILLED HOLES

REMOVE ALL BURRS. BREAK ALL EDGES .015-.035

R.I. INSPECTION INFORMATION MINIMUM PERMISSIBLE AVERAGE EDGE DISTANCE MARKED IS

SYMBOL ⚡ DENOTES SURFACE TO BE MACHINED

UNLESS OTHERWISE SPECIFIED TOLERANCE ON FLANGES IS ± 1/32

LOCATING OF AN, NAS & BTS AL ALY RIVETS SHORTER THAN 1 INCH ARE NOT SPECIFIED.

TOLERANCE ON EDITED DELINEATIONS IS

INSTALL FASTENERS PER LSP 14-15302

ALL INFORMATION NOT REQUIRED FOR INSTL OF LDW280-25514-1 IS FOR REF ONLY

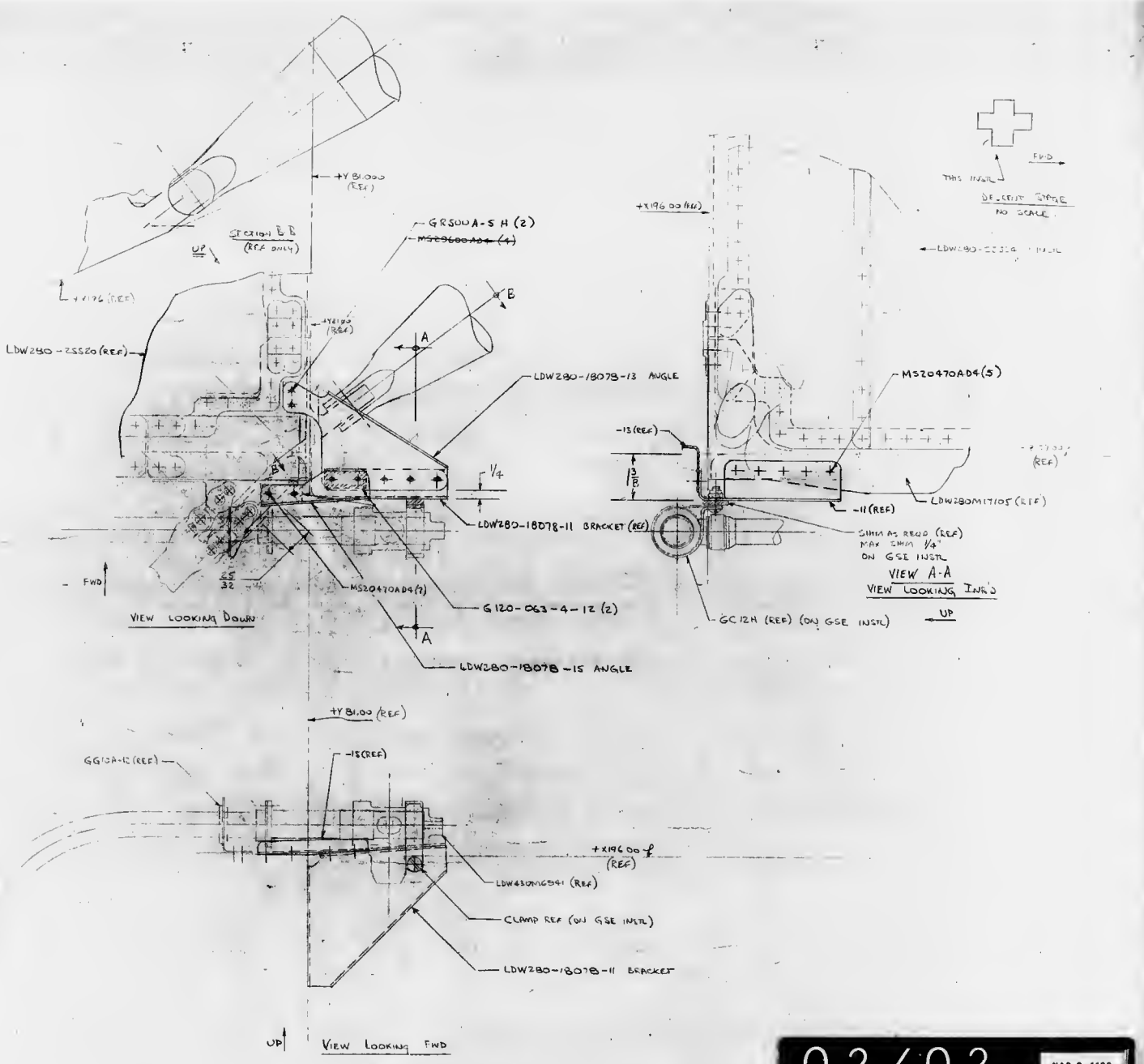
THIS IS A LAYOUT RELEASE TO BE REDRAWN ON PLASTIC FILM

02/02

NAS 9-1100

LEM	J 26512	LDW280-25801

THIS IS AN ORIGINAL DWG



MANUFACTURING OPERATIONS
UNLESS OTHERWISE SPECIFIED NOTES CHECKED √ APPLY TO THIS DWG.
PART NUMBER AND ALL OTHER MARKINGS IN REGION MARKED ☐ USE BOTH SIDES IF NECESSARY
FILLET AND INSIDE CORNER RADII TOLERANCES .064R TO .382R ± .010 .391R TO .250R ± .015 OVER .250R ± .030
DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS. 2-1 UNF THDS BEYOND PERMISSIBLE
EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 IMPERFECT THREADS MAX
DO NOT CADMIUM PLATE & PAINT HOLES OR SURFACES MARKED WITH DOUBLE ASTERISK
MISMATCH STEP OR ± .005 PERMISSIBLE DUE TO TOLERANCE OF CUTTERS AT ENTIRE INTERSECTING SURFACES.
DIAMETERS MARKED MUST BE CONCENTRIC WITHIN .005 FULL INDICATOR READING
WIRES MUST BE KEPT FREE OF CHROME PLATING SOLUTION
ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING THICKNESS OF PLATE .0015 MIN TO .0015 MAX MIN THICKNESS TO BE .0012 ON THREADED AREAS. NO ALLOWANCE FOR PLATING IN HOLES
SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL-STD-10
250 FOR ALL DRILLED HOLES
REMOVE ALL BURRS. BREAK ALL EDGES .015-.030
INSPECTION INFORMATION MINIMUM PERMISSIBLE AVERAGE EDGE DISTANCE MARKED .15
SYMBOL F DENOTES SURFACE TO BE MACHINED
UNLESS OTHERWISE SPECIFIED TOLERANCE ON FRACTIONS .15 ± 1/32
LENGTHS OF ARC WAS R BTS AL RLY RIVETS SHORTER THAN 4 INCH ARE NOT SPECIFIED
TOLERANCE ON LOFTED DELINEATIONS .15

INSTALL FASTENERS PER LSP 14-15302

ALL [illegible] INSTL

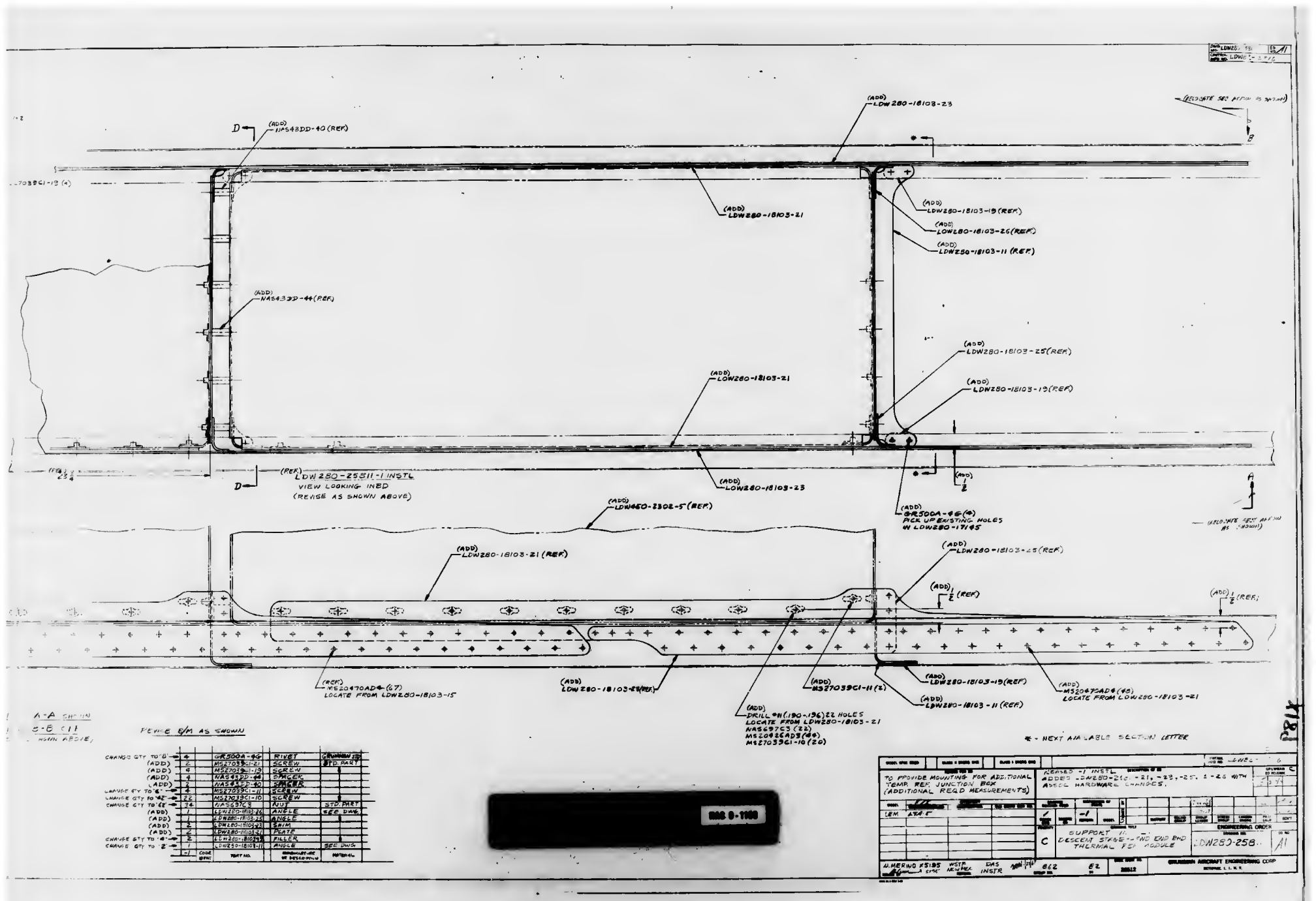
THIS [illegible] A CIRCUIT BREAKER TO BE RE[illegible]

02/02 NAS 9-1100

GRUMMAN AIRCRAFT ENGNG CORP., BETHPAGE, L.I., NEW YORK		
LEM	SIZE J	CODE IDENT NO. 26512
MODEL OR END ITEM	SCALE FULL	SHEET 3

LDW280-25801

THIS IS AN ORIGINAL



A-A SHOWN
B-B (11
SHOWN ABOVE)

REVISE E/M AS SHOWN

CHANGE QTY TO "8" →	4	GR500A-66	RIVET	GRUMMAN STD PART	
(ADD)	2	MS27039C1-21	SCREW		
(ADD)	6	MS27039C1-19	SCREW		
(ADD)	4	NAS43DD-44	SPACER		
(ADD)	2	NAS43DD-40	SPACER		
CHANGE QTY TO "6" →	4	MS27039C1-11	SCREW		
CHANGE QTY TO "42" →	22	MS27039C1-10	SCREW		
CHANGE QTY TO "68" →	34	NAS697C3	NUT	STD. PART	
(ADD)	1	LDW280-18103-26	ANGLE	SEE DWG.	
(ADD)	1	LDW280-18103-25	ANGLE		
(ADD)	2	LDW280-18103-23	SHIM		
(ADD)	6	LDW280-18103-21	PLATE		
CHANGE QTY TO "4" →	2	LDW280-18103-19	FILLER		
CHANGE QTY TO "2" →	1	LDW250-18103-11	ANGLE	SEE DWG.	
	-1	PART NO.		MATERIAL	

[redacted]

REVISED -1 INSTL
ADDED LDW280-21C -21, -23, -25, & -26 WITH ASSOC. HARDWARE CHANGES.

TO PROVIDE MOUNTING FOR ADDITIONAL TEMP. REF. JUNCTION BOX (ADDITIONAL REQ'D MEASUREMENTS)

LEM ASA-5

C

SUPPORT LH DESCENT STAGE FWD END BHD THERMAL EQ MODULE

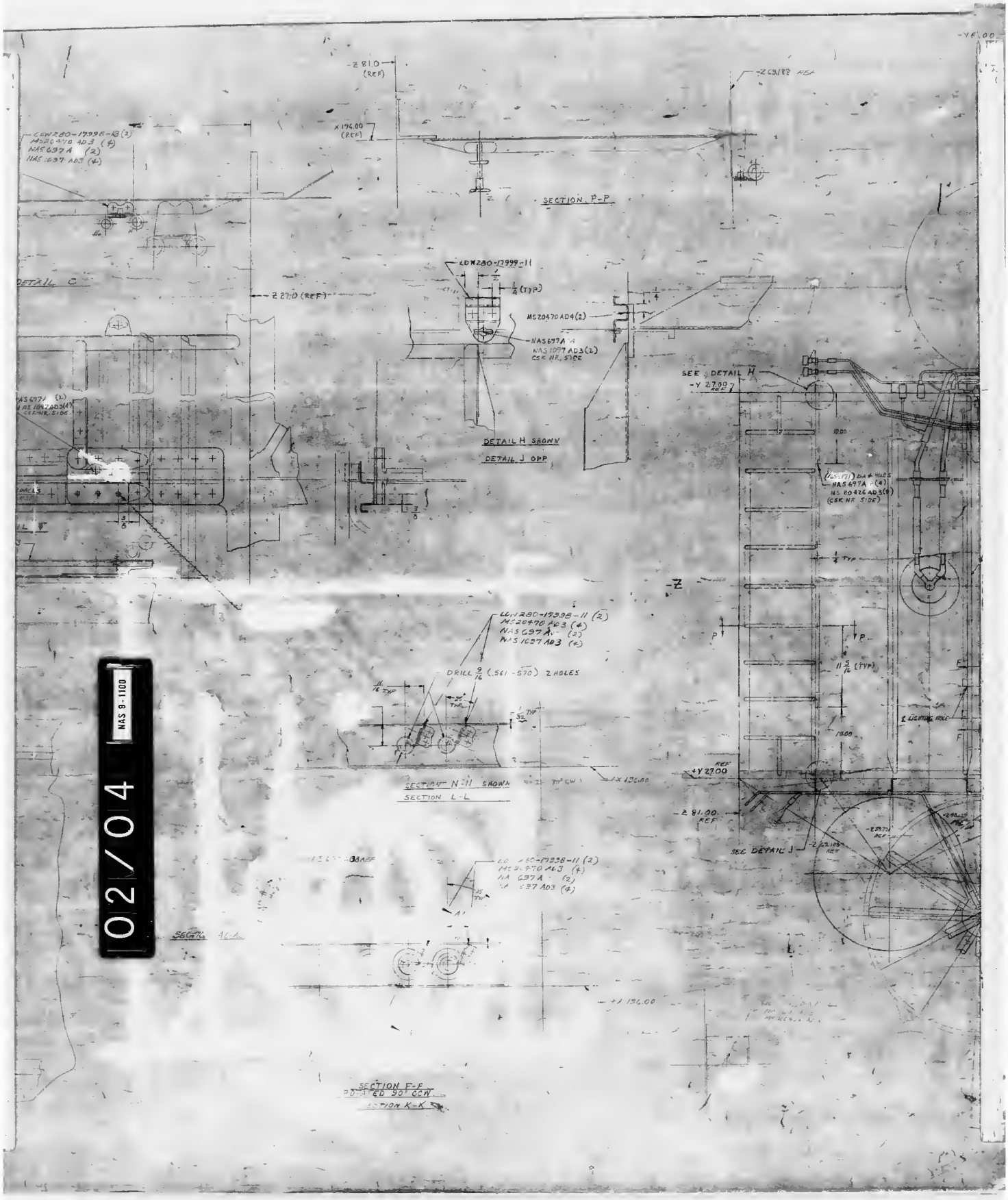
ENGINEERING ORDER
LDW250-258..

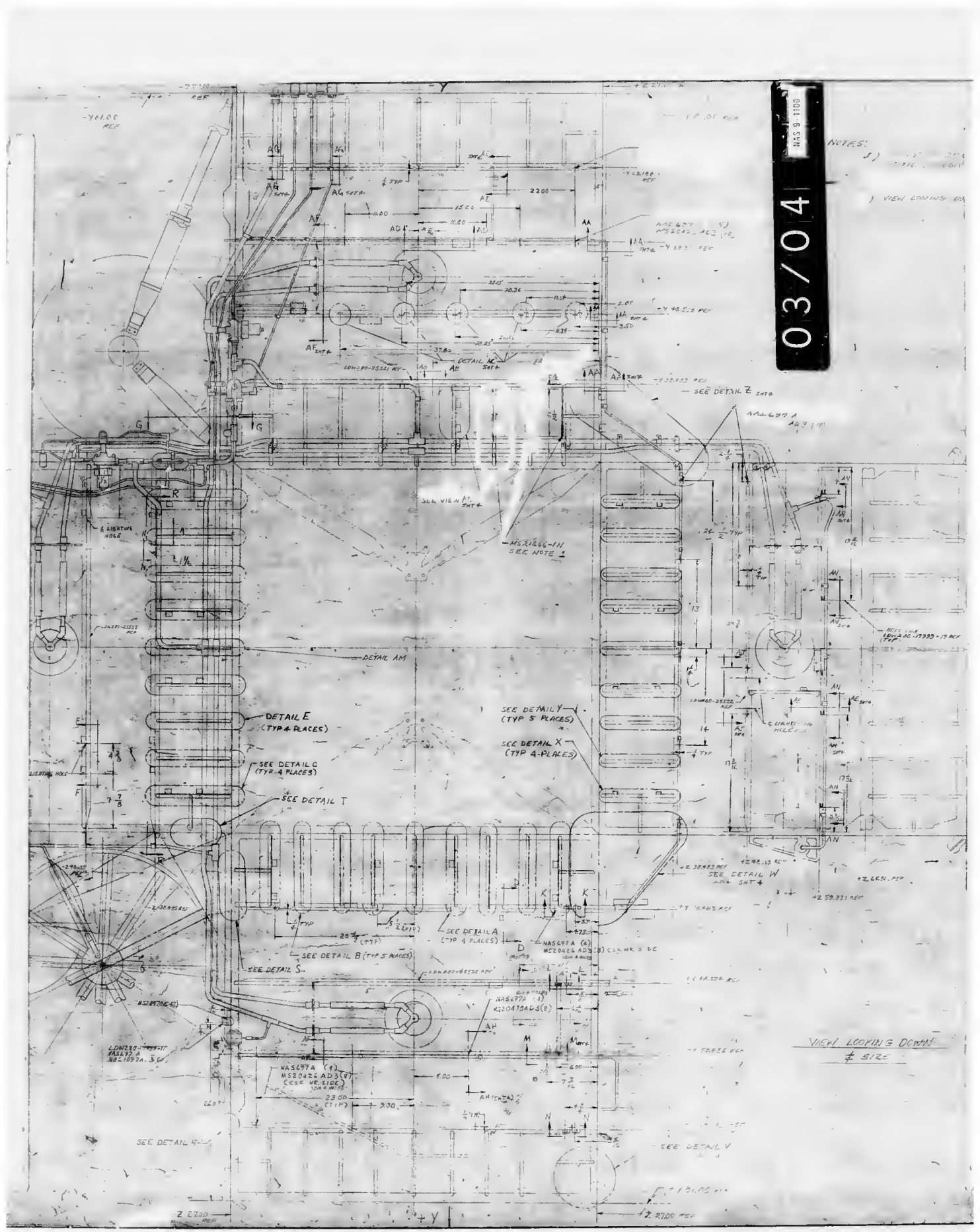
M. MERINO #5195 WSTF NEW REL. DAS INSTR

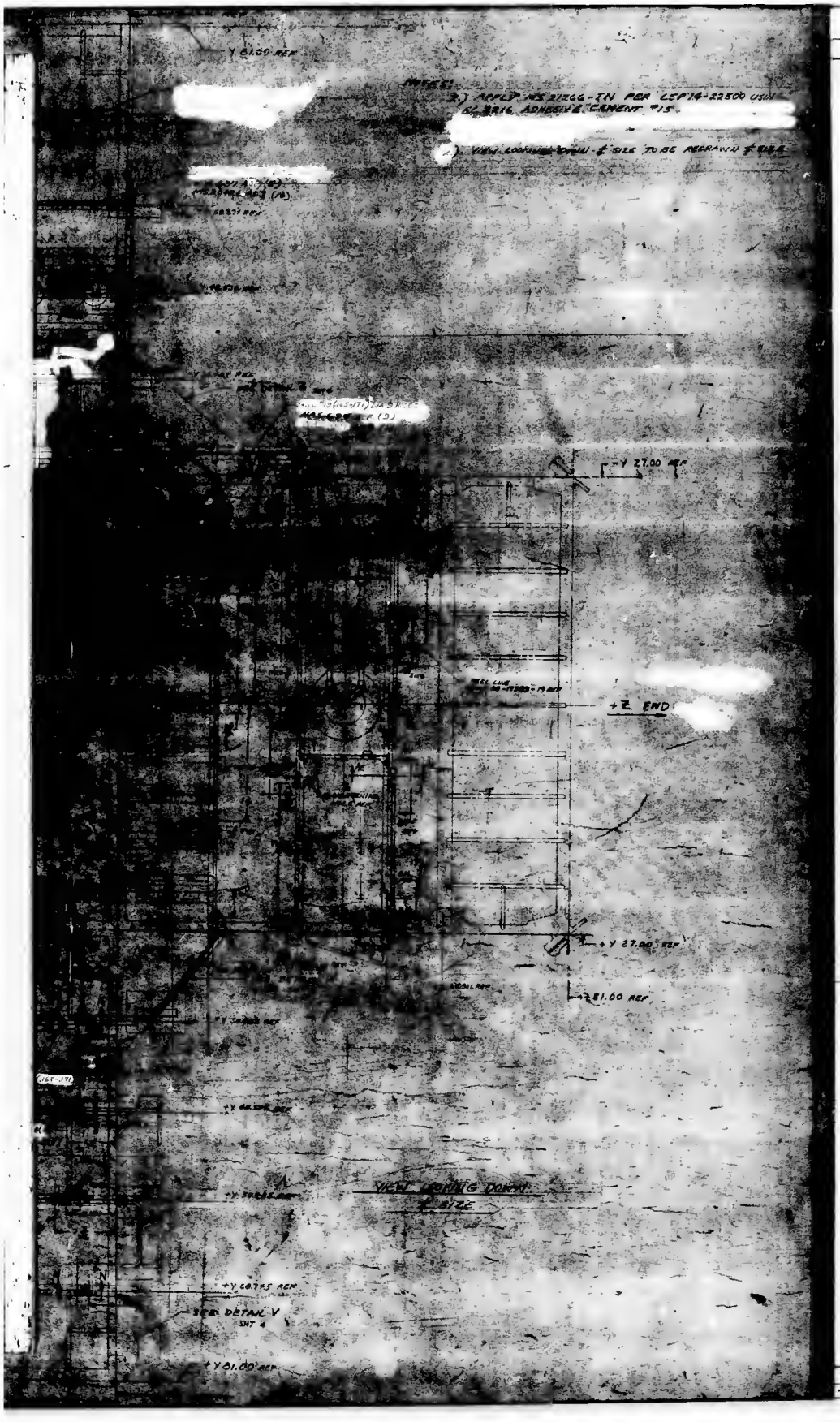
612 62

GRUMMAN AIRCRAFT ENGINEERING CORP
BETHPAGE, L. I., N. Y.

NAS 9-1100
01/04
SECTION U-U
SECTION G-G
SECTION R-R
SECTION D-D
DETAIL S
DETAIL B
DETAIL E
DETAIL Y
DETAIL AM
DETAIL A
DRILL 9/16 (SEE STD 570) 3 HOLES
LDW280-17998-15 3 PLACES
MS20470 AD4 (2) 3 PLACES
NAS 697A NAS 1097 AD3 CSK PAR SIDE
NAS 697A NAS 1097 AD3 CSK NR SIDE (TYP 3 PLACES)
LDW280-17999-17
LDW280-17999-13
MS21266-N SEE NOTE 4
MS21266-N SEE NOTE 1
MS20470 AD4 (5)
MS20470 AD4 (4)
LDW280-17999-3
3 EQ. SPACES (REF)
Z 38.483
Z 27.00 (REF)
Z 0.00 (REF)


SECTION P-P
DETAIL H SHOWN
DETAIL J OPP
SECTION N-N SHOWN
SECTION L-L
SECTION F-F
ROTATED 90° CCW
SECTION K-K
SEE DETAIL H
SEE DETAIL J
DETAIL C
NAS 9-1100
02/04


03/04
NAS 9-1100
NOTES:
VIEW LOOKING DOWN
SEE DETAIL Z SHT 6
SEE VIEW AA SHT 4
MS21266-111
SEE NOTE 1
DETAIL AM
DETAIL E
(TYP 4 PLACES)
SEE DETAIL C
(TYP 4 PLACES)
SEE DETAIL T
SEE DETAIL Y
(TYP 5 PLACES)
SEE DETAIL X
(TYP 4 PLACES)
SEE DETAIL W
SHT 4
SEE DETAIL A
(TYP 4 PLACES)
SEE DETAIL B (TYP 5 PLACES)
SEE DETAIL S
SEE DETAIL V
SEE DETAIL U
VIEW LOOKING DOWN
SIZE



MANUFACTURING OPERATIONS

UNLESS OTHERWISE SPECIFIED
NOTES CHECKED √ APPLY TO THIS DWG.

PART NUMBER AND ALL OTHER MARKINGS IN ENGRAVED MARKED [ ] USE BOTH SIDES IF NECESSARY.

VALLEY AND INSIDE CORNER RADII TOLERANCE
.XXR TO .XX7R ± .030
.XX8 TO .XXR ± .015
OVER .XXR ± .030

DEPTH SHOWN FOR TAPPED HOLES IS FULL SIZE 2.2 IMP THDS. BEYOND PERMISSIBLE.

EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 IMPERFECT THREADS MAX.

DO NOT CADMIUM PLATE & PAINT HOLES OR SURFACES MARKED WITH ANGLE ASTERISK.

MISMATCH STEP OF ± .005 PERMISSIBLE DUE TO CHANGE OF CUTTERS AT INSIDE INTERSECTING SURFACES.

DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING

HOLES MUST BE KEPT FREE OF CHROME PLATING SOLUTION.

ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING. THICKNESS OF PLATE .0005 MIN. TO .0015 MAX. ENDS THICKNESS TO BE .0025 ON THREADED AREAS. NO ALLOWANCE FOR PLATING IN HOLES

SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL-STD-10

√ FOR ALL DRILLED HOLES

REMOVE ALL BURRS. BREAK ALL EDGES .015-.031

INSPECTION INFORMATION
DIMENSIONS FOLLOWED BY ASTERISK ARE KEY DIMENSIONS.

SURFACE √ DENOTES SURFACE TO BE MACHINED

UNLESS OTHERWISE SPECIFIED TOLERANCE ON FRACTIONS IS ± 1/32

LOCATION OF ALL TRUE & MIN DIA. ALL HOLES DRILLED THRU 1 INCH ARE KEY DIMENSIONS.

TOLERANCE ON LOFTED DIMENSIONS IS

04/04

NAS 9-1100

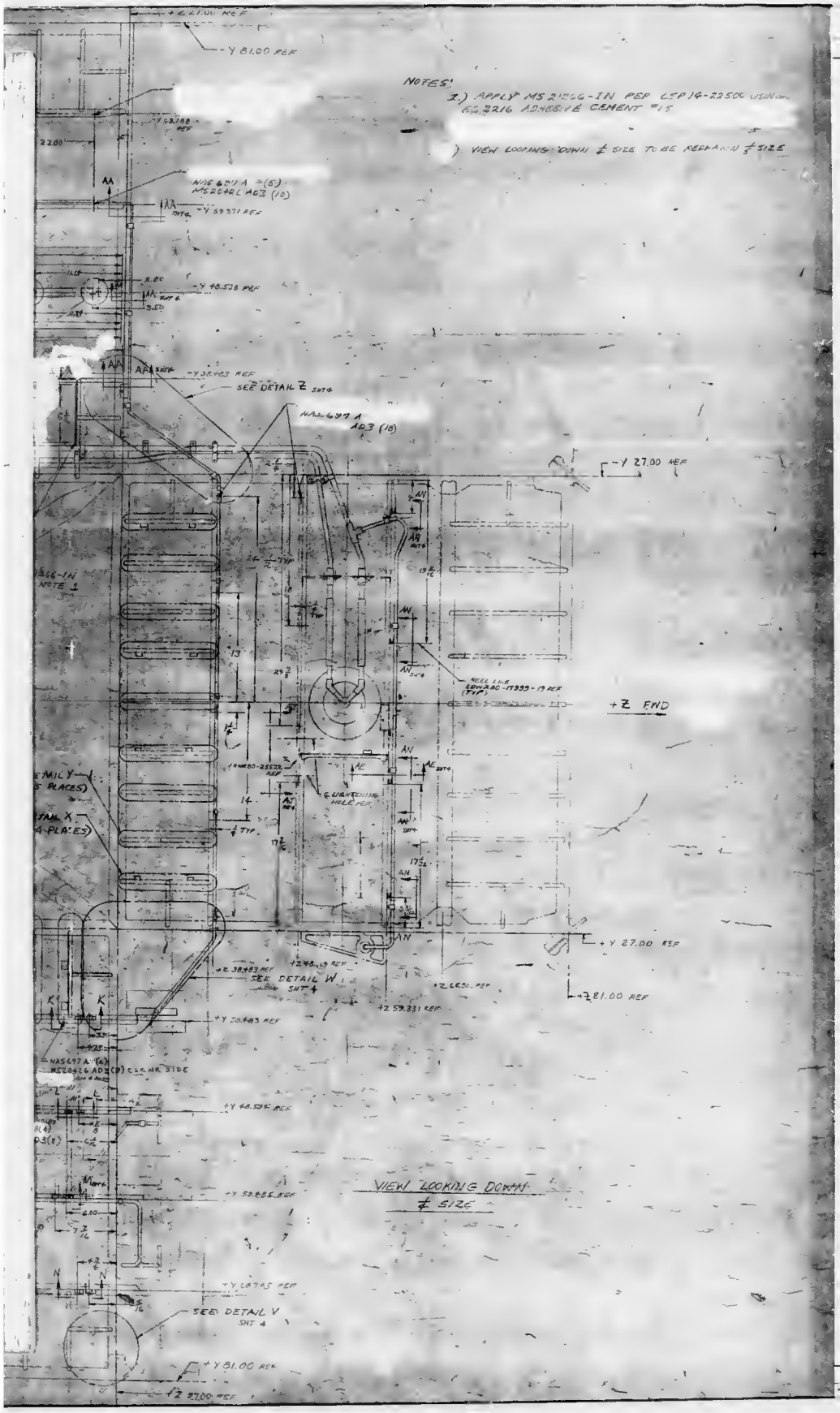
LDW280-26783

LDW280-26783

USE T I TITLE TO BE REDRAWN ON ALL THIS FORMAT

	GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L.I., NEW YORK		
LEM	SIZE K	CAGE IDENT NO. 26512	LDW280-26783
	SCALE		SHEET

THIS IS AN ORIG DWG



04/04

NAS 9-1100

MANUFACTURING OPERATIONS

UNLESS OTHERWISE SPECIFIED
NOTES CHECKED √ APPLY TO THIS DWG.

PART NUMBER AND ALL OTHER MARKINGS IN REGION MARKED USE BOTH SIDES IF NECESSARY.

DRILLED AND REAMED HOLES
RADII TOLERANCES
.0187 TO .063 ± .010
.094 TO .250 ± .015
OVER .250 ± .030

DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS 2-3 DRP THDS BEYOND PERMISSIBLE

EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 IMPERFECT THREADS MAX.

DO NOT CADMIUM PLATE & PAINT HOLES OR SURFACES MARKED WITH DOUBLE ASTERISK

MISMATCH STEP OF ± .005 PERMISSIBLE DUE TO CHANGE OF CUTTER AT INSIDE INTERSECTING SURFACES.

DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING

HOLES MUST BE KEPT FREE OF CHROMIC PLATING SOLUTION

ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING THICKNESS OF PLATE .0003 MIN. TO .0005 MAX PER THICKNESS TO BE .0002 ON THREADED AREAS NO ALLOWANCE FOR PLATING IN HOLES

125 SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL-STD-10

250 FOR ALL DRILLED HOLES

REMOVE ALL BURRS BREAK ALL EDGES .010-.020

INSPECTION INFORMATION MINIMUM PERMISSIBLE AVERAGE EDGE DISTANCE MARKED IS

SYMBOL ⌀ DENOTES SURFACE TO BE MACHINED

UNLESS OTHERWISE SPECIFIED TOLERANCE ON FLANGES IS ± 1/32

LENGTHS OF AN NAS & MS AL ALY RIVETS SHORTER THAN 1 INCH ARE NOT SPECIFIED.

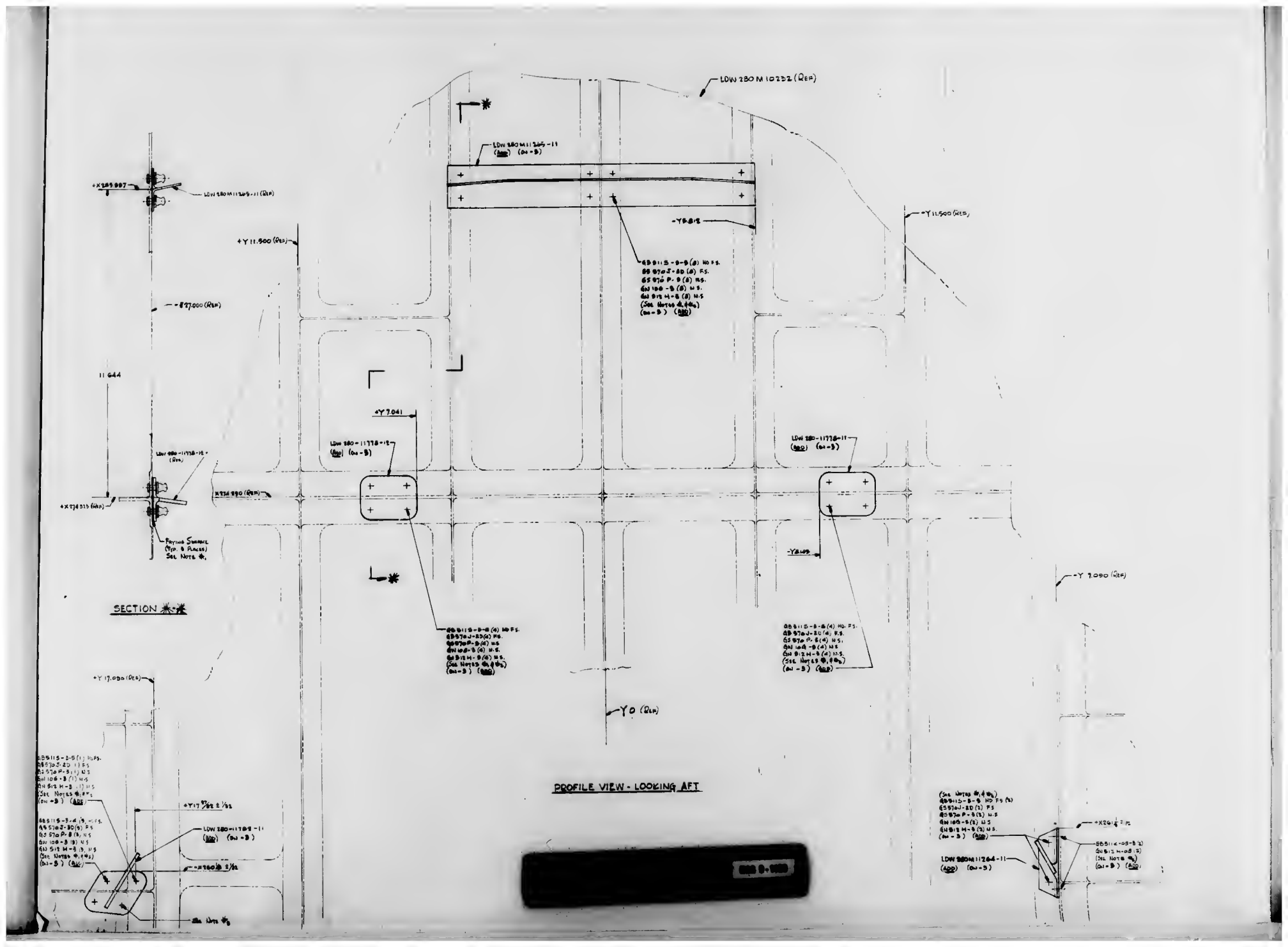
TOLERANCE ON LOFTED DELINEATIONS IS

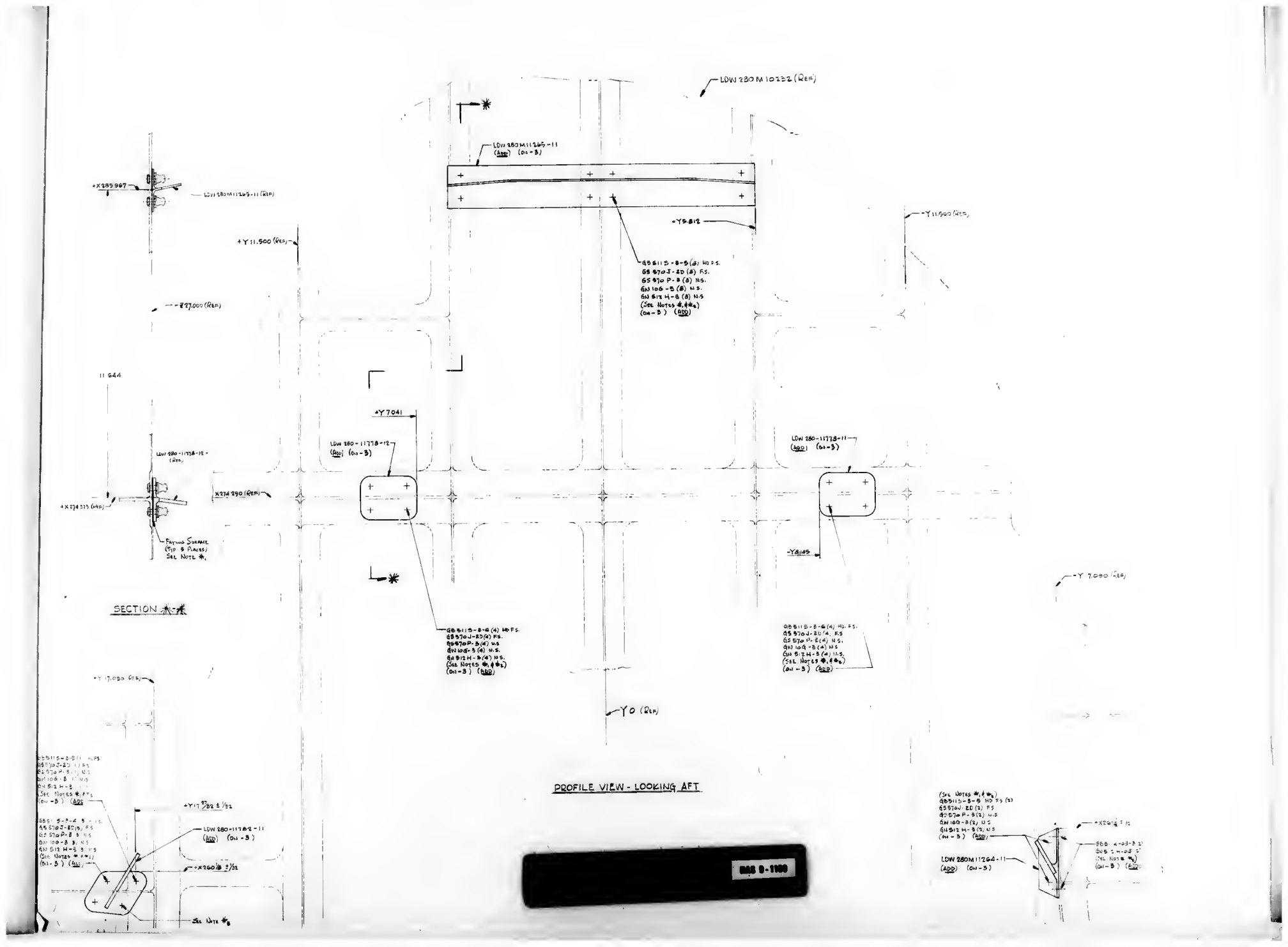
GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L.I., NEW YORK

SIZE K | CODE IDENT NO 26512 | DWG NO -DIV-

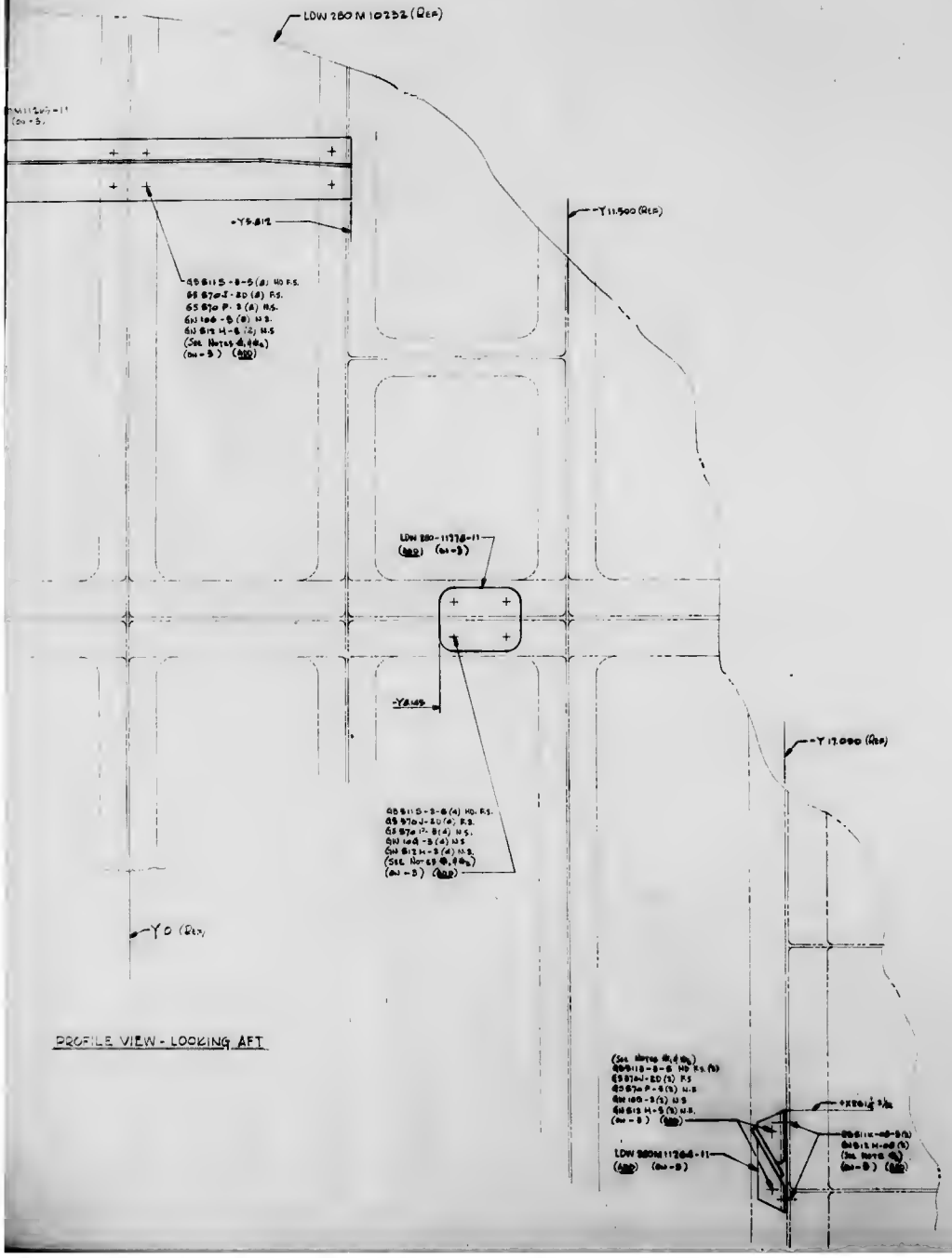
SCALE | SHEET

THIS IS AN ORIG DWG


LDW 280 M 10232 (REF)
LDW 280 M 11265-11 (REF) (DW-B)
+X 285.997
LDW 280 M 11265-11 (REF)
+Y 11.500 (REF)
-Y 8.812
-Y 11.500 (REF)
-827.000 (REF)
SB 9115-B-8 (8) NO FS.
SB 570 J-8D (8) FS.
GS 570 P-8 (8) NS.
GW 108-B (8) NS.
GW 512 M-8 (8) NS
(SEE NOTES 4, 10)
(DW-B) (ADD)
11.644
+Y 7.041
LDW 280-11778-12 (REF)
LDW 280-11778-12 (ADD) (DW-B)
LDW 280-11778-11 (ADD) (DW-B)
+X 734.990 (REF)
+X 734.515 (REF)
FAYING SURFACE (TYP. 8 PLACES) SEE NOTE 4.
-Y 8.409
SECTION
SB 9115-B-8 (4) NO FS.
SB 570 J-8D (4) FS.
GS 570 P-8 (4) NS.
GW 108-B (4) NS.
GW 512 M-8 (4) NS.
(SEE NOTES 9, 10)
(DW-B) (ADD)
-Y 7.090 (REF)
+Y 17.090 (REF)
-Y 0 (REF)
PROFILE VIEW - LOOKING AFT
LDW 280-11778-11 (ADD) (DW-B)
LDW 280 M 11264-11 (ADD) (DW-B)


LDW 280M10232 (REF)
LDW 280M11265-11 (ADD) (DN-3)
+X285.967
LDW 280M11265-11 (REF)
+Y 11.500 (REF)
+Y5.812
GB5115-8-5(8) HD FS.
GS570J-2D(8) FS.
GS570P-8(8) NS.
GW109-8(8) NS.
GW512H-8(8) NS
(SEE NOTES #,4 #2)
(DN-3) (ADD)
+Y 11.500 (REF)
-Y27.000 (REF)
11.644
+Y7.041
LDW 280-11778-12 (ADD) (DN-3)
LDW 280-11778-12 (REF)
+X274.290 (REF)
+X274.533 (REF)
FAYING SURFACE (TYP 6 PLACES) SEE NOTE #1
LDW 280-11778-11 (ADD) (DN-3)
-Y8.185
SECTION
GB5115-8-6(4) HD FS.
GS570J-2D(4) FS.
GS570P-8(4) NS.
GW109-8(4) NS.
GW512H-8(4) NS.
(SEE NOTES #,4 #2)
(DN-3) (ADD)
GB5115-8-6(4) HD FS.
GS570J-2D/4 FS.
GS570P-8(4) NS.
GW109-8(4) NS
GW512H-8(4) NS.
(SEE NOTES #,4 #2)
(DN-3) (ADD)
+Y 7.090 (REF)
+Y 17.090 (REF)
+Y17.22/32 ± 1/32
LDW 280-11782-11 (ADD) (DN-3)
+X260.18 ± 1/32
SEE NOTE #5
PROFILE VIEW - LOOKING AFT
Y0 (REF)
(SEE NOTES #,4 #2)
GB5115-8-5 HD FS (2)
GS570J-2D (2) FS
GS570P-8(2) NS
GW109-8(2) NS
GW512H-8(2) NS
(DN-3) (ADD)
LDW 280M11264-11
(ADD) (DN-3)
+X20 1/2 ± 1/32
GB5115-8-03-8 2)
GW5 5 H-03-8 2
(SEE NOTE #2)
(DN-3) (ADD)

BAE 8-1100



PROFILE VIEW - LOOKING AFT

NOTE #1:
SEAL FAYING SURFACES PER LSP 14-14102.

NOTE #2:
INSTALL HI-LOKS PER LSP 14-15300

NOTE #3:
CBORE 5/16 DIA = 1.050 CUTTER RAD. TO MINIMUM CORE OR BOLTHEAD AT POINT OF HOLE IS PERMISSIBLE TO RADIUS

CREATE -3 INST'L IDENTICAL TO -1 (EXCEPT AS SHOWN) FOR LM-2 (32) ONLY
NEXT ASSY: LDW 280-92012 QUANTITY: 1 REQ'D/MOD.

RESTRICT EFFECTIVITY OF -1 TO LTA-8 (18) AND LM-1 (81)

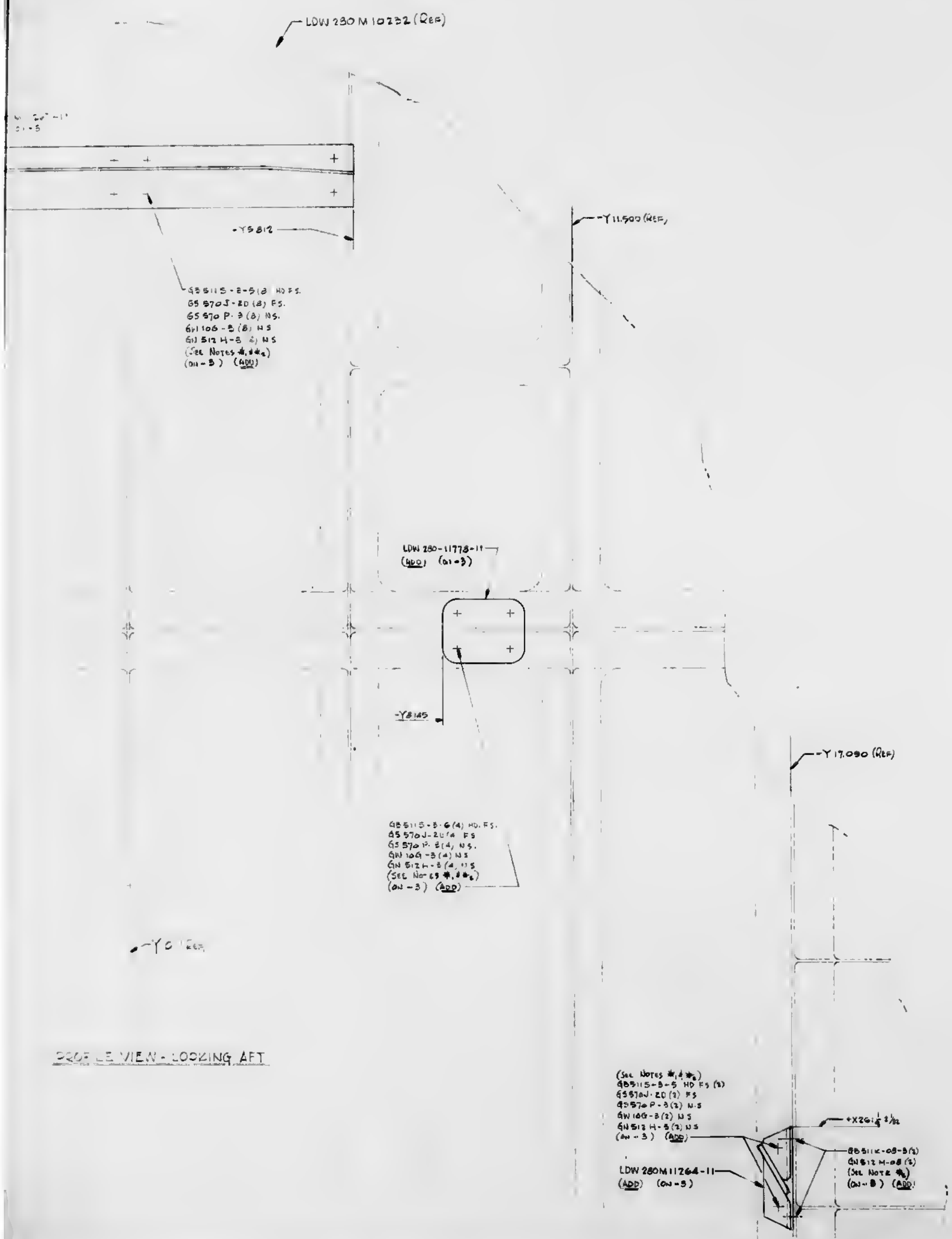
[redacted]

[redacted]

WORK PKG FUNCTION #110

			LCR 820		LDW 280A-5012
To Provide For P.S.S. Support Arr. LCR Dr. 820			CREATE -3 INST'L. -1 INST'L EFFECTIVITY LTA-8 (18), LM-1 (81), LM-2 (32) ADDED NOTES 3, 4 & 5		
LM LM-2 (32)		C	STIFFENER & SKIN SUPPORT INST. AFT BULKHEAD STA. 68, MID SECTION, 227 BULKHEAD	LDW 280-28019	C1

B



Note #1:
Seal Faying Surfaces Per LSP 14-14102

Note #2:
Install Hi-Loks Per LSP 14-15306

Note #3:
CBore 7/16 Dia × .050 Cutter Rad. To Minimum Gage of Bulkhead At Point of Hole is Permissable If Reqd

CREATE -3 INST'L IDENTICAL TO -1 (EXCEPT AS SHOWN) FOR LM-2 (32) ONLY
NEXT ASSY: LDW 280-52012 QUANTITY: 1 REQ'D/MOD.

RESTRICT EFFECTIVITY OF -1 TO LTA-8 (18) AND LM-1 (31)

[redacted]

[N/A 50 C/N LDW280A5050 (LDW280-52012_)]

WORK PKG FUNCTION #110

(3)

LCR 820 — LDW 280A-5049

To Provide For PLSS Support Per LCR No. 820

Created -3 Inst'l
-1 Inst'l Effectivity was LTA-8 (18), LM-1 (31), LM-2 (32)
Added Notes #1, #2, #3

LM — LM-2 (32)

C — STIFFENER & EQUIP SUPPORT INST'L - ASCENT STAGE, MID SECTION, -Z 27 BULKHEAD — LDW 280-28019 — C1

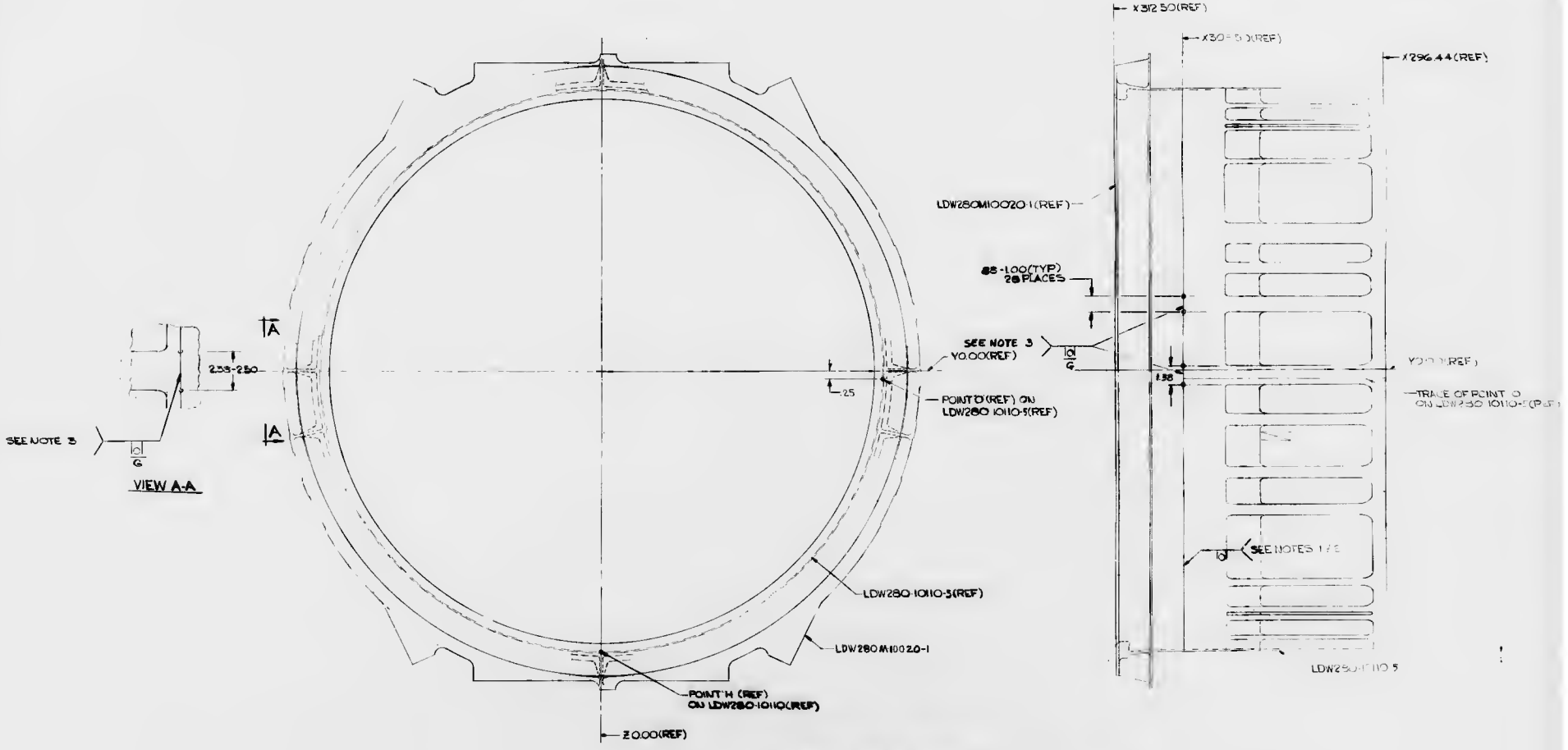
Geo W Roessein — Van Der Lint — 815 — 45 — 26512

GRUMMAN AIRCRAFT ENGINEERING CORP

K1153 1/18/67

B

NOTES
1. DO NOT BREAK SHARP E
2. MECHANIZED FUSION WE
LSP.14.2201 & INSPECT P
ANNEALED AREA ADJA
PERMISSIBLE
3. GRIND WELD FLUSH (±3
4. FLUSH
ETC.

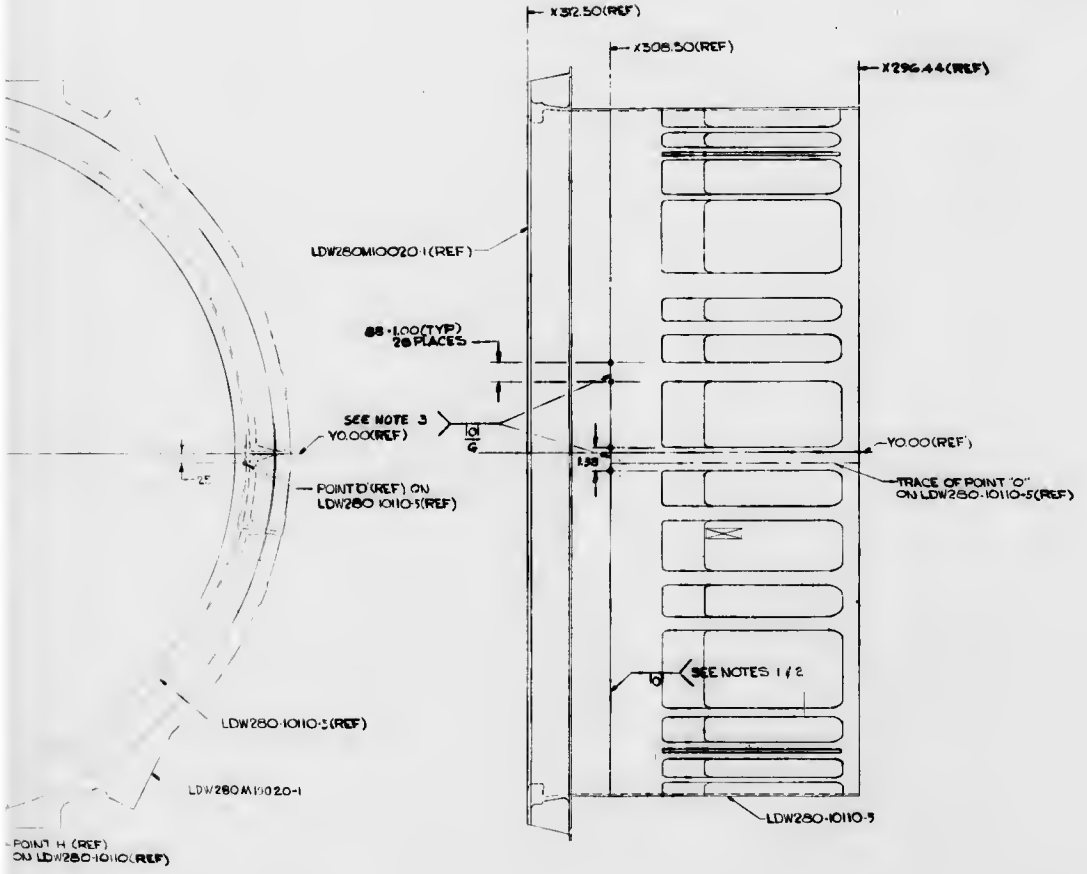


LDW280-28022-1 WELD ASSY

[redacted]

CODE IDENT 24512
LDW280-28022 SH 3

NOTES
1. DO NOT BREAK SHARP EDGES.
2. MECHANIZED FUSION WELD PER GRUMMAN SPEC. LSP.14-G201 & INSPECT PER STANDARD II. ANNEALED AREA ADJACENT TO WELD IS PERMISSIBLE.
3. GRIND WELD FLUSH (*[illegible]) IN THIS AREA N.S.
4. FINISH-1 ASSY *66. SCRAPE ANODIZE FROM WELDED AREA BEAD & ⅛ EITHER SIDE. BOTH SIDES REFINISH *76

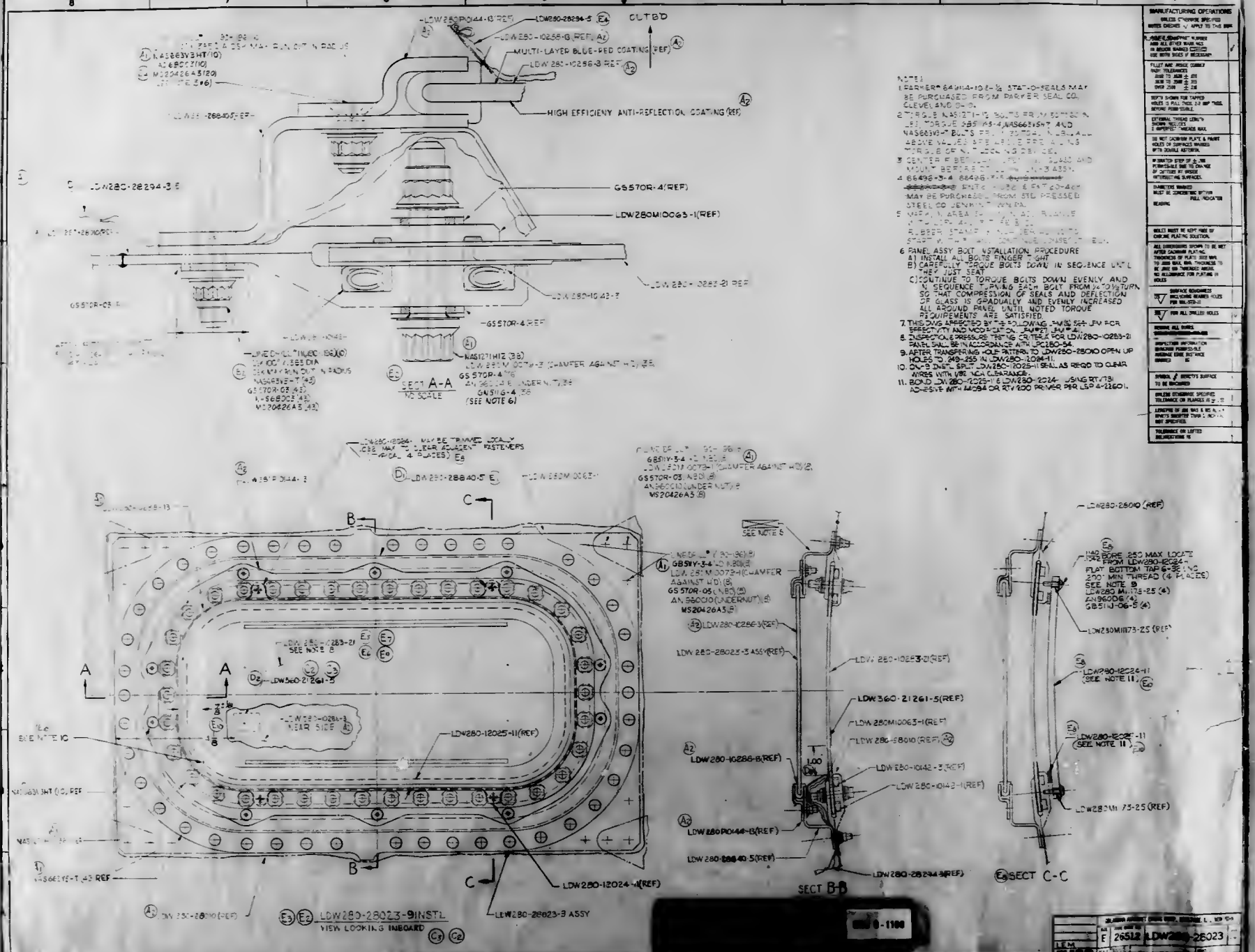


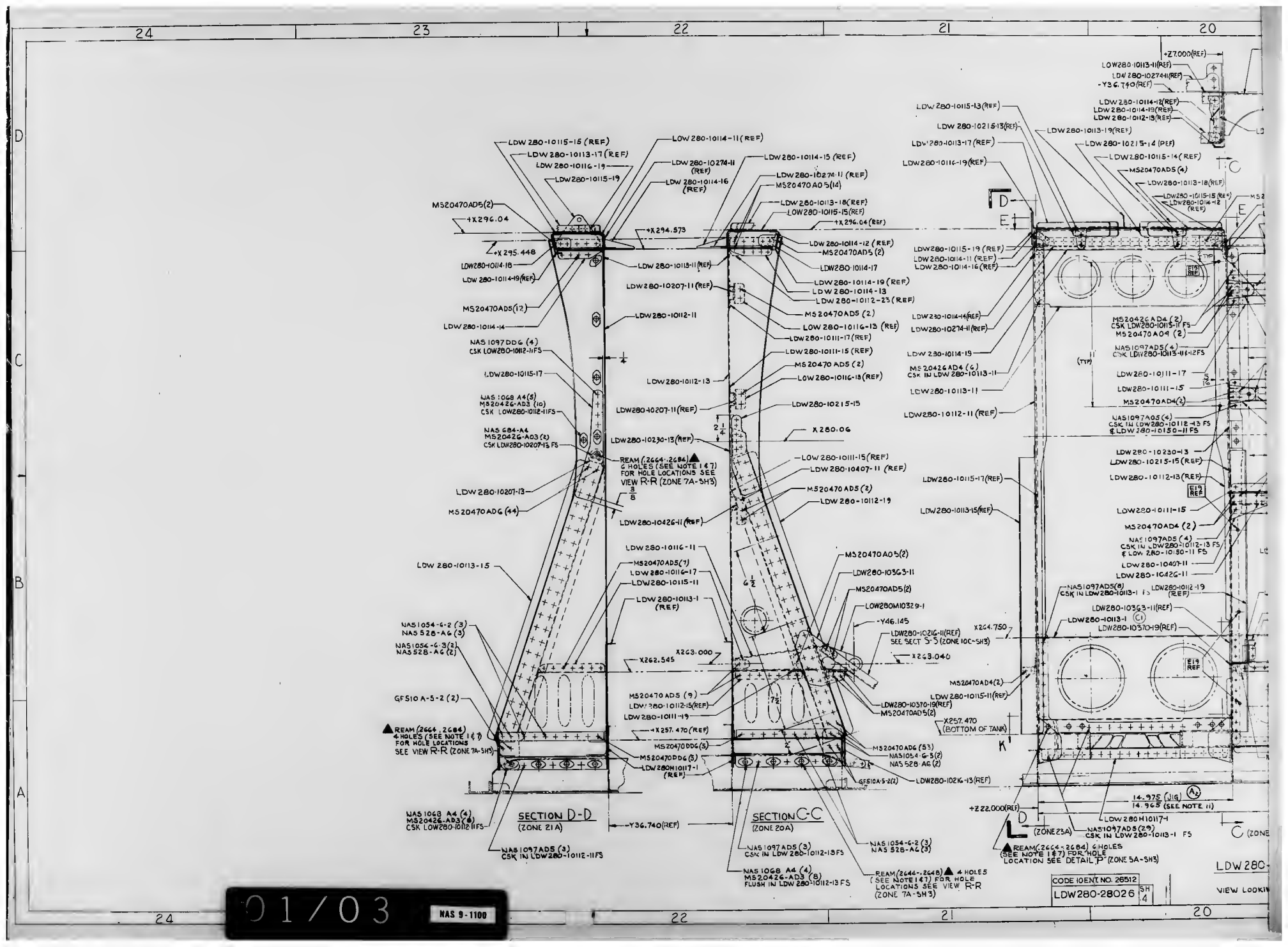
LDW280-28022-1 WELD ASSY

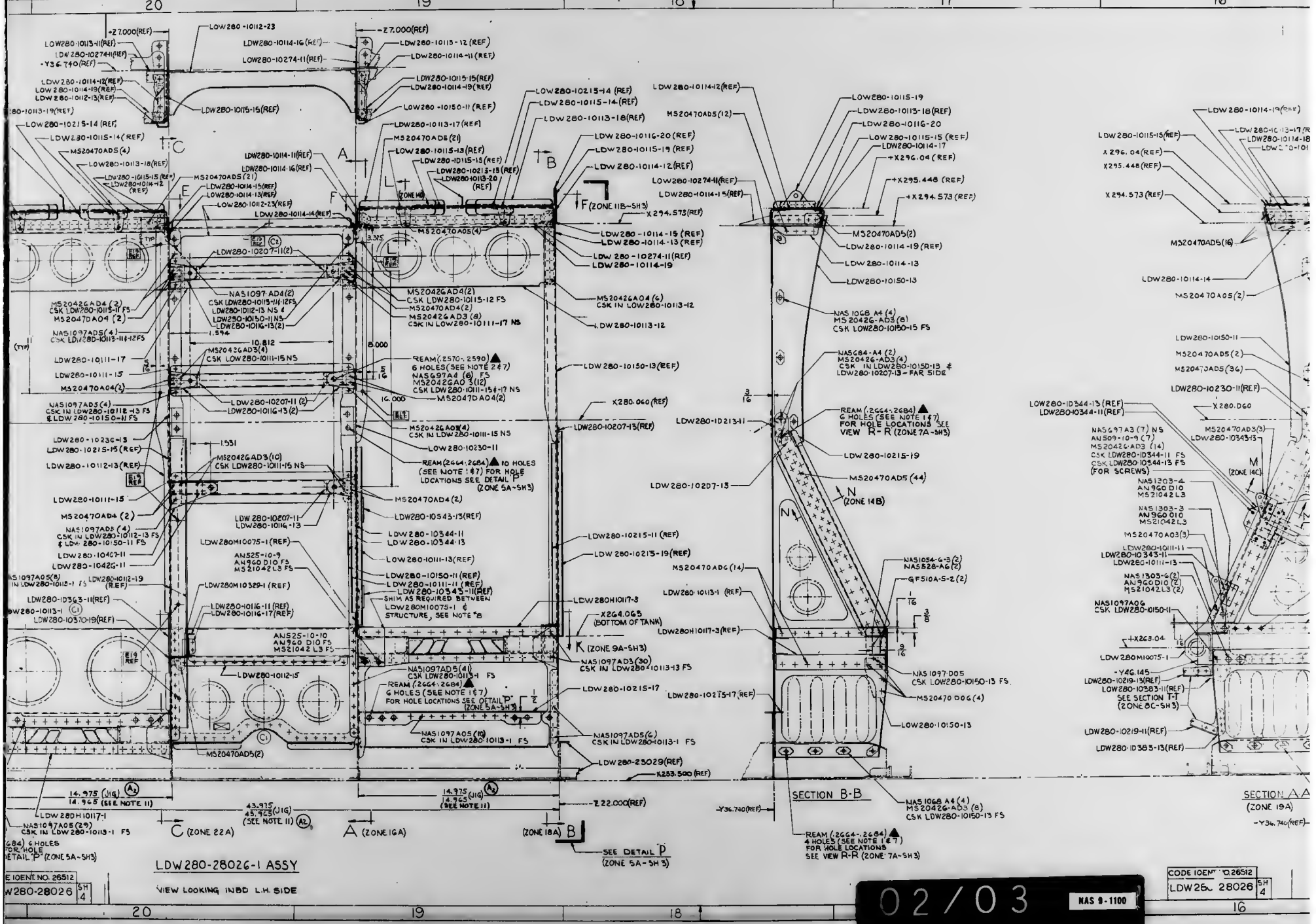
[redacted]

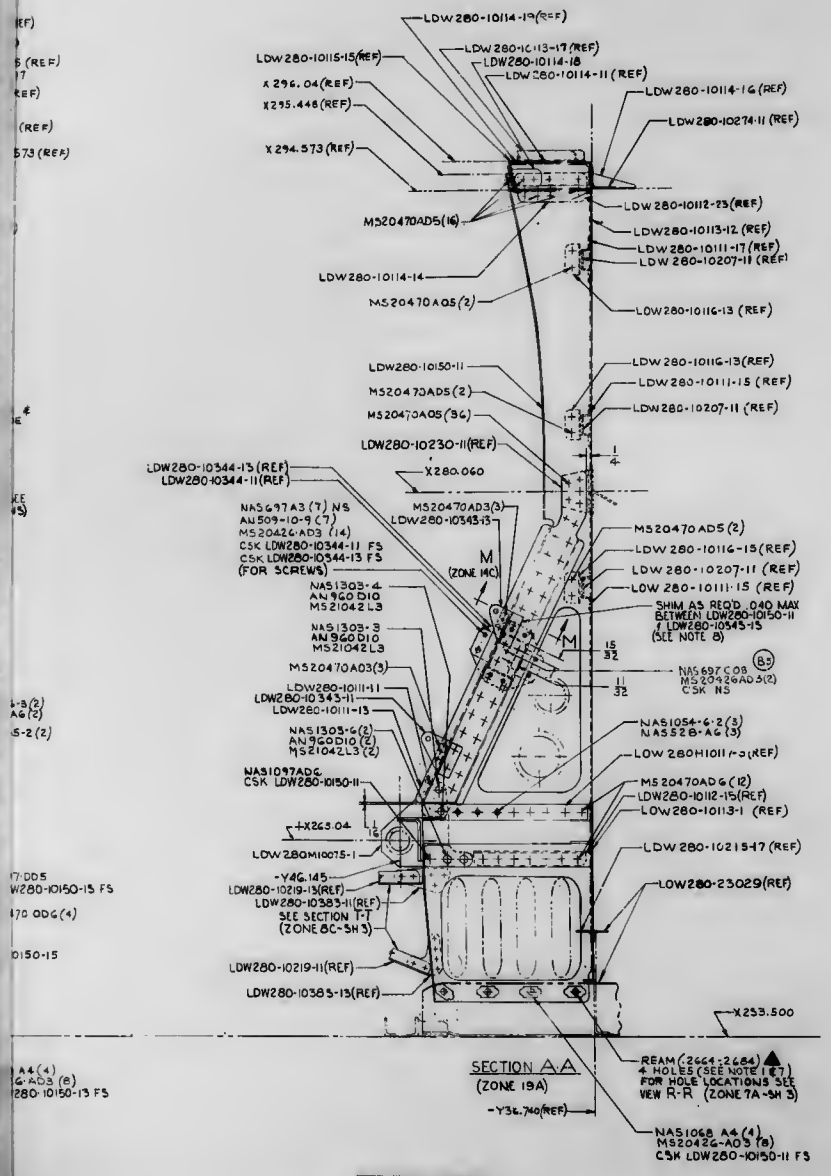
CODE IDENT 26512	LDW280-28022	SHT 3

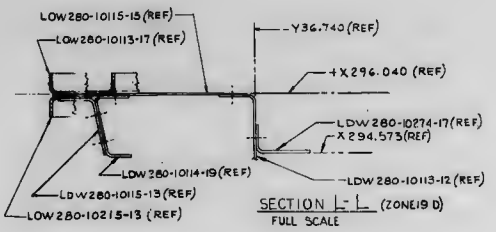
J	26512	LDW280-28022	A

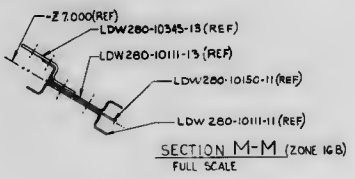

OUTBD
HIGH EFFICIENY ANTI-REFLECTION COATING (REF)
MULTI-LAYER BLUE-RED COATING (REF)
GS570R-4(REF)
LDW280M10063-1(REF)
SECT A-A
SECT B-B
SECT C-C
LDW280-12025-11(REF)
LDW280-28023-3 ASSY
VIEW LOOKING INBOARD
LDW280-28023-9INSTL
MANUFACTURING OPERATIONS

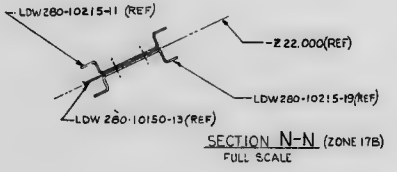

SECTION D-D
(ZONE 21A)
SECTION C-C
(ZONE 20A)
(ZONE 23A)
REAM (2664-2684) 6 HOLES (SEE NOTE 16 7) FOR HOLE LOCATION SEE DETAIL "P" (ZONE 5A-SH3)
REAM (2664-2684) 4 HOLES (SEE NOTE 16 7) FOR HOLE LOCATIONS SEE VIEW R-R (ZONE 7A-SH3)
14.975 (JIG)
14.965 (SEE NOTE 11)
+Z 7.000(REF)
+Z 22.000(REF)
-Y36.740(REF)
X 280.06
X264.750
X263.040
X263.000
X262.545
+X257.470(REF)
X257.470 (BOTTOM OF TANK)
-Y46.145
+X294.573
+X296.04(REF)
+X296.04
+X295.448
LDW280-28026
SH 4
CODE IDENT NO. 26512
NAS 9-1100
01/03


LDW280-28026-1 ASSY
VIEW LOOKING INBD L.H. SIDE
SECTION B-B
SECTION A-A
(ZONE 19A)
02/03
NAS 9-1100
CODE IDENT. 26512
LDW280-28026 SH 4









MANUFACTURING OPERATIONS
UNLESS OTHERWISE SPECIFIED
NOTES CHECKED √ APPLY TO THIS DWG.

PART NUMBER AND ALL OTHER MARKINGS TO BE/OR MARKED USE BOTH SIDES IF NECESSARY.

FILLET AND INSIDE CORNER RADII TOLERANCES
.XXX TO .XXX2 ± .005
.XXX TO .XXX9 ± .013
OVER .XXX9 ± .025

DRILL THROUGH FOR TAPPED HOLES IF FULL THDS. 2-3 DIA. THDS. BEYOND PLUS ACCEPTABLE.

EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 IMPERFECT THREADS MAX.

DO NOT CHAMFER PLATE & POINT HOLES OR SURFACES MARKED WITH DOUBLE ASTERISK.

MISMATCH STEP OF ± .005 PERMISSIBLE DUE TO CHANGE OF CUTTERS AT DRILL INTERSECTING SURFACES.

DIAMETERS MARKED MUST BE CONCENTRIC WITHIN .010 (TIR) INDICATOR READING

HOLES MUST BE FREE FROM OF CHROME PLATING SOLUTION.

ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING. THICKNESS OF PLATE .005 MIN. TO .008 MAX. NON THICKNESS TO BE ONLY ON THREADED AREAS. NO ALLOWANCE FOR PLATING IN HOLES

SURFACE ROUGHNESS INCLUDING BEARED HOLES PER MIL-STD-10

FOR ALL DRILLED HOLES

REMOVE ALL BURRS. BREAK ALL EDGES .005-.015

INSPECTION INFORMATION
REWORK PERMISSIBLE
AVERAGE EDGE DISTANCE
MARKED IN

SYMBOL ∫ DENOTES SURFACE TO BE MACHINED

UNLESS OTHERWISE SPECIFIED
TOLERANCE ON FRACTIONS IS ± 1/32

DENOTES BY AN NAS & MS AL ALY RIVETS SHORTER THAN 1 INCH ARE HOT SPECIFIED.

TOLERANCE ON LOFTED DELINEATIONS IS

03/03

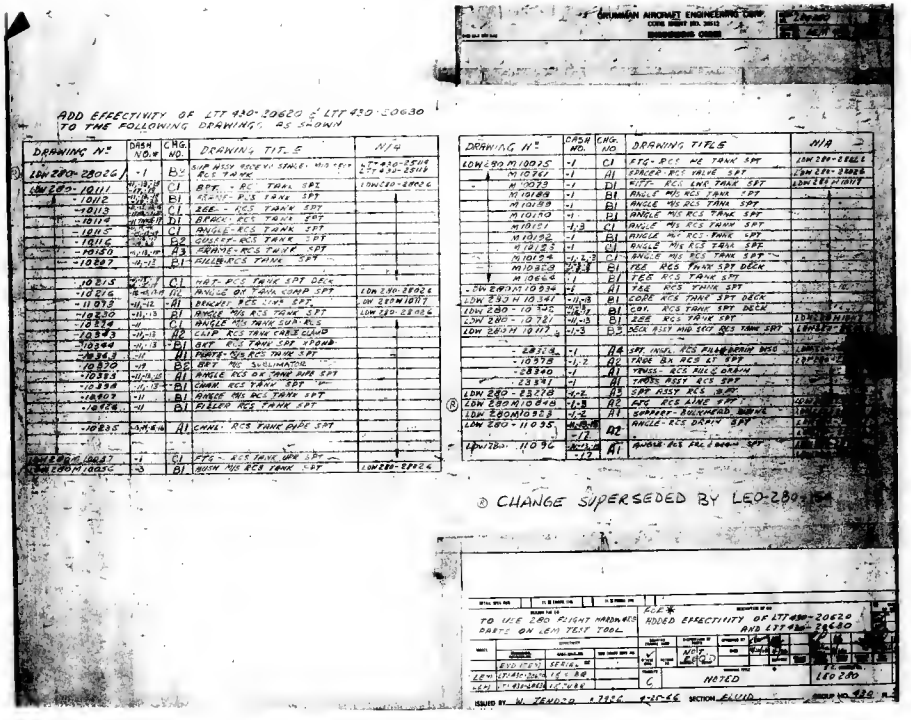
NAS 9-1100

CODE IDENT NO. 26512	LDW280-28026	SH 4

GRUMMAN AIRCRAFT ENGINEERING CORP., BETHPAGE, L. I., NEW YORK.			
LEM	J	26512	LDW280-28026 C
	SCALE 4 NOTED		SHEET 4.00

LDW280-28026 C

3 FR.



GRUMMAN AIRCRAFT ENGINEERING CORP.

ADD EFFECTIVITY OF LTT 430-20620 & LTT 430-20630 TO THE FOLLOWING DRAWINGS AS SHOWN

DRAWING No.	DASH NO.	CHG. NO.	DRAWING TITLE	N/H
LDW 280-28006	-1	B4	SUP ASSY, RCS/VI SINGLE MID SECT RCS TANK	LTT 430-25118 LTT 430-25119
LDW 280-10111	-1	C1	BRT. - RC THRU SPT	LDW 280-28826
-10112	-1	B1	ADAPT. RCS TANK SPT	
-10113	-1	C1	ADP. - RCS TANK SPT	
-10114	-1	D1	BRACE RCS TANK SPT	
-10115	-1	C1	ANGLE - RCS TANK SPT	
-10116	-1	B2	GUSSET - RCS TANK SPT	
-10120	-1, 1A, 1B	A3	FRAME - RCS THRUST SPT	
-10127	-1, 12	B1	FILLER RCS TANK SPT	
-10215	-1	C1	HDR. RCS TANK SPT DECK	
-10216	-1, 1A, 1B	D2	ANGLE QT TANK COMP SPT	LDW 280-28826
-11073	-1, 12	A1	BRACKET RCS LINE SPT	LDW 280M10117
-10230	-11, 13	B1	ANGLE MID RCS TANK SPT	LDW 280-28826
-10238	-11	C1	ANGLE MID TANK SUP RCS	
-10243	-11, 13	A2	CLIP RCS TANK CASE CLOUD	
-10244	-11, 13	B1	BKT. RCS TANK SPT STOWD.	
-10243	-11	B1	PARTS - RCS TANK SPT	
-10330	-11	B2	BRT RC SUSPENSION	
-10333	-11, 13, 15	B1	ANGLE RCS QT TANK PIPE SPT	
-10338	-11, 13	B1	CHAN. RCS TANK SPT	
-10807	-11	B1	ANGLE MID RCS TANK SPT	
-10826	-11	B1	FILLER RCS TANK SPT	
-10835	-1, 1A, 1B	A1	CHNL - RCS TANK PIPE SPT	
LDW 280M10837	-1	C1	FTG - RCS TANK HDR SPT	
LDW 280M10838	-3	B1	BUSH MID RCS TANK SPT	LDW 280-28826

DRAWING No.	DASH NO.	CHG. NO.	DRAWING TITLE	N/H
LDW 280M10835	-1	C1	FTG - RCS HE TANK SPT	LDW 280-28826
M10741	-1	A1	ERROR RCS VALVE SPT	LDW 280-28826
M10773	-1	D1	FITT. RCS LNR TANK SPT	LDW 280 #10117
M10789	-1	B1	ANGLE MID RCS TANK SPT	
M10789	-1	B1	ANGLE MID RCS TANK SPT	
M10790	-1	F1	ANGLE MID RCS TANK SPT	
M10791	-1, 3	C1	ANGLE MID RCS TANK SPT	
M10792	-1	B1	ANGLE MID RCS TANK SPT	
M10823	-1	C1	ANGLE MID RCS TANK SPT	
M10824	-1, 1, 3	C1	ANGLE MID RCS TANK SPT	
M10803	-1, 3	E1	TEE RCS TANK SPT DECK	
M10665	-1	E1	TEE RCS TANK SPT	
LDW 280M10934	-1	A1	TEE RCS TANK SPT	
LDW 280M10341	-11, 13	B1	CORE RCS TANK SPT DECK	
LDW 280-10345	-11, 13	B1	CONT. RCS TANK SPT DECK	
LDW 280-10321	-11, 13	B1	ADPT RCS TANK SPT	LDW 280 #10117
LDW 280M10117	-1, 3	B3	DECK ASSY MID SECT RCS TANK SPT	LDW 280-28826
-28214	-1	A4	SPT. INSUL. RCS PULL DRAIN MOD	LDW 280-28826
-10573	-1, 2	A2	TRUSS RCS QT SPT	LDW 280-28826
-28340	-1	A1	TRUSS - RCS AUX & DRAIN	
-23391	-1	A1	TRUSS ASSY RCS SPT	
LDW 280-23278	-1, 2	A3	SPT ASSY RCS AFT	
LDW 280M10848	-1, 3	A2	SPT. RCS LINE SPT	
LDW 280M10323	-1, 2	A1	SUPPORT - BULKHEAD MOUNT	
LDW 280-11095	-11, 13, 15 -12	A2	ANGLE - RCS DRAIN SPT	
LDW 280-11096	-11, 13 -12	A1	ANGLE RCS FILL & DRAIN SPT	

② CHANGE SUPERSEDED BY LEO-280-154

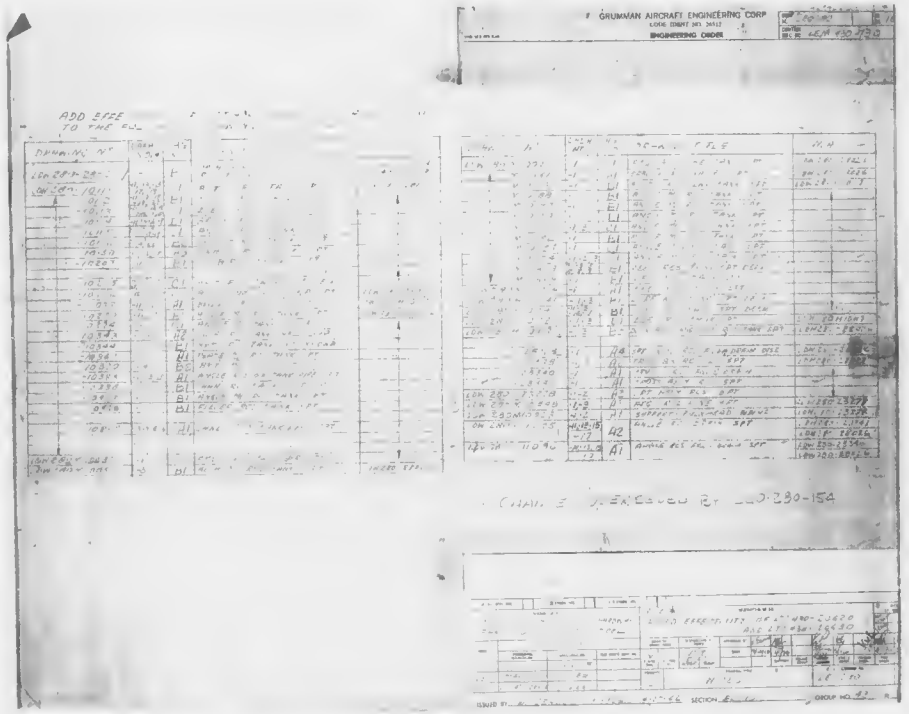
TO USE 280 RIGHT HAND RCS PARTS ON LEM TEST TOOL

ECR * ADDED EFFECTIVITY OF LTT 430-20620 AND LTT 430-20630

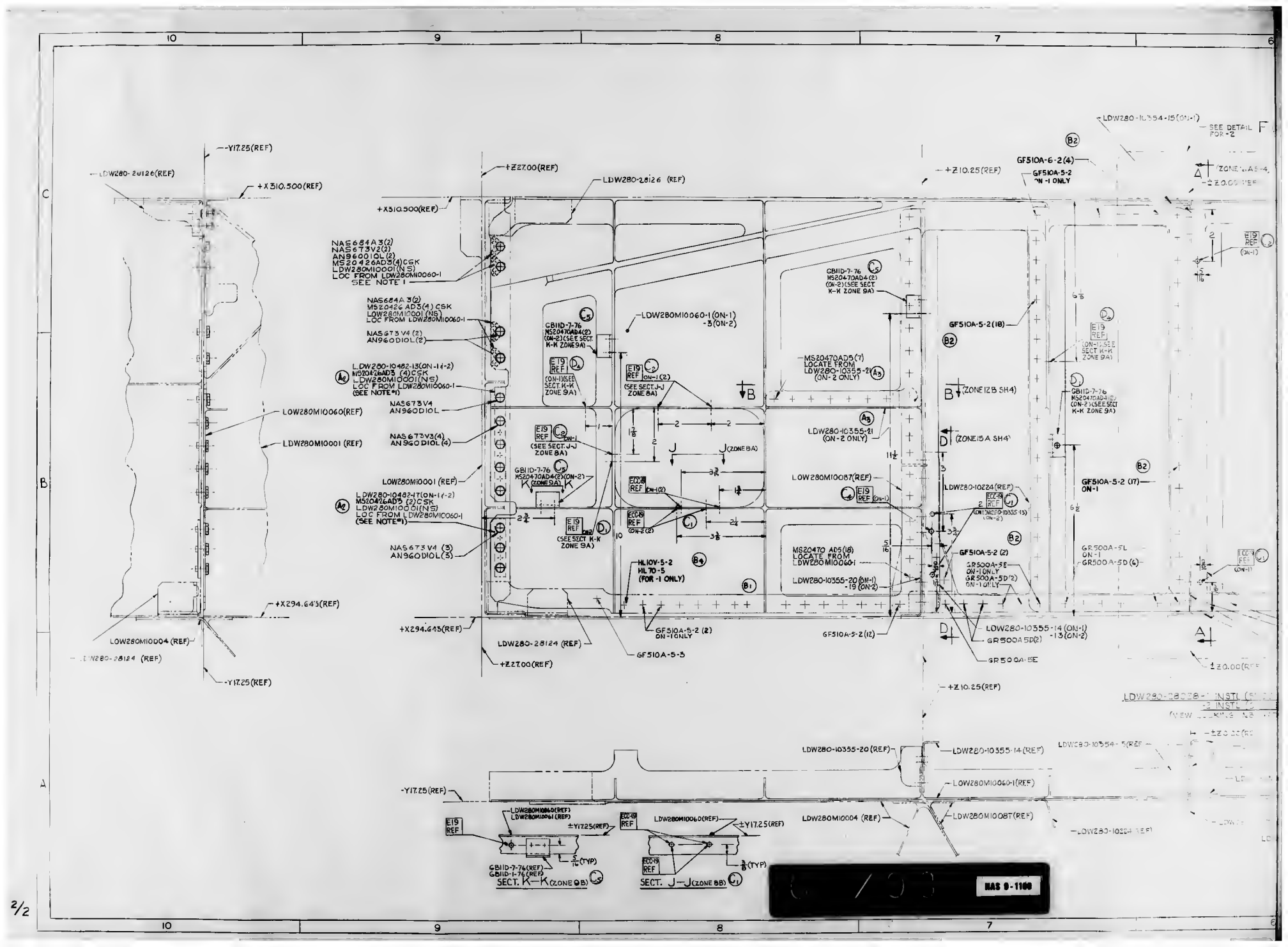
EVO ITEM	SERIAL NO.		
LEM STRUCTURAL TEST ARTICLE		NOTED	LEO 280
LEM FLIGHT VEHICLE			

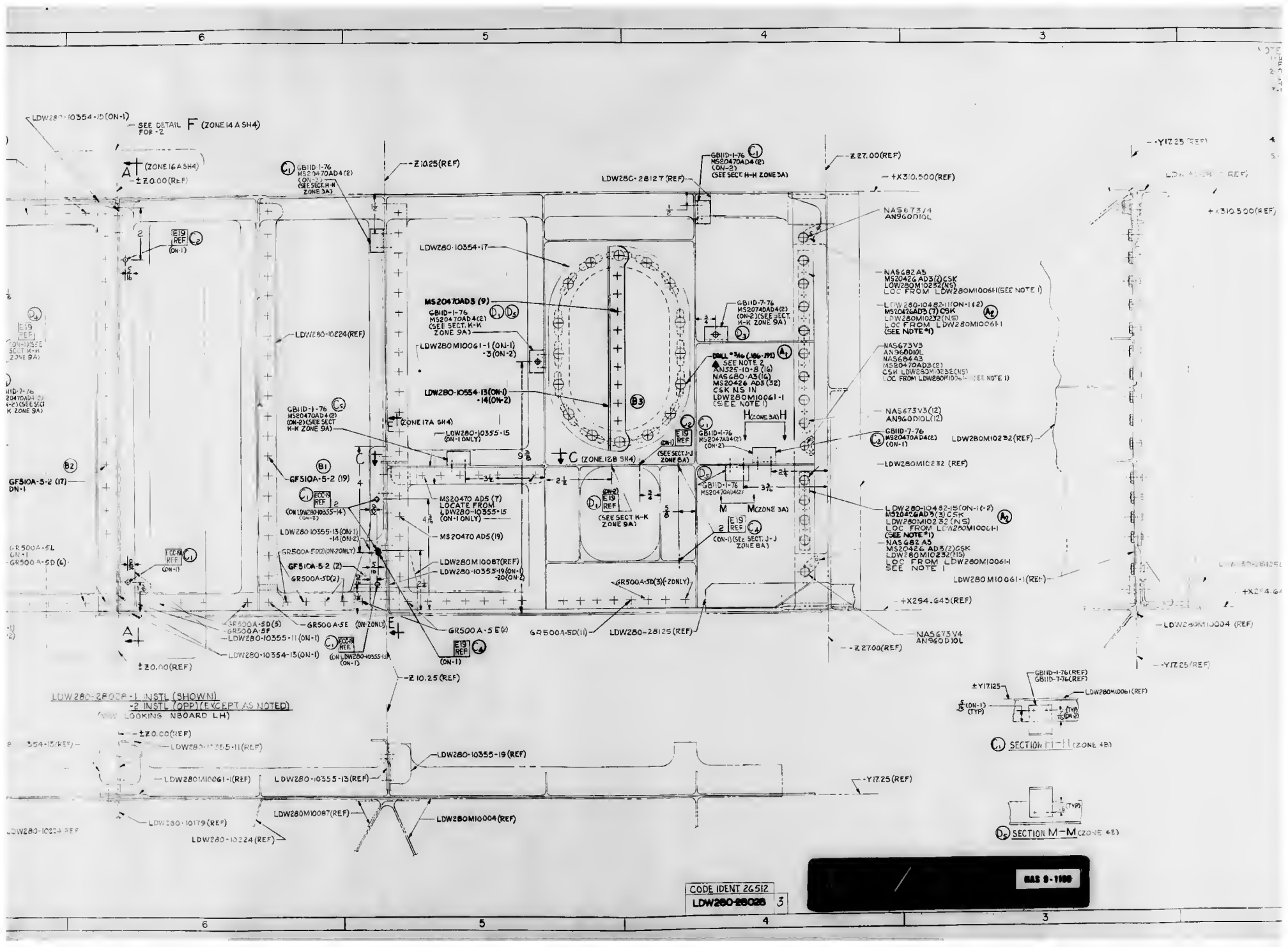
ISSUED BY W. ZENDZIAN 7-22-66 SECTION ELLIS

NAS 9-1100


GRUMMAN AIRCRAFT ENGINEERING CORP
ENGINEERING ORDER
ADD EFFE
TO THE EL

01
NAS 9-1100


LDW280-28126(REF)
-Y17.25(REF)
+X310.500(REF)
+Z27.00(REF)
+Z10.25(REF)
NAS684A3(2)
NAS673V3(2)
AN960101L(2)
MS20426AD3(4)CSK
LDW280M10001(NS)
LOC FROM LDW280M10060-1
SEE NOTE 1
LDW280M10060-1(ON-1)
-3(ON-2)
GBIID-7-76
MS20470AD4(2)
(ON-2)(SEE SECT K-K ZONE 9A)
E19 REF
(ON-1)(SEE SECT K-K ZONE 9A)
(SEE SECT J-J ZONE 8A)
MS20470AD5(7)
LOCATE FROM
LDW280-10355-21
(ON-2 ONLY)
GF510A-5-2(18)
GF510A-6-2(4)
GF510A-5-2
ON-1 ONLY
(ZONE 12B SH4)
(ZONE 15A SH4)
(ZONE 8A)
LDW280-10224(REF)
GF510A-5-2(17)
ON-1
GF510A-5-2(2)
GR500A-5L
ON-1
GR500A-5D(6)
GR500A-5E
ON-1 ONLY
GR500A-5D(2)
ON-1 ONLY
LOW280M10060(REF)
LDW280M10001(REF)
LOW280M10004(REF)
LDW280-28124(REF)
LDW280-10482-13(ON-1)-2
LDW280-10482-17(ON-1)-2
NAS673V4
AN960D10L
NAS673V4(2)
NAS673V4(3)
NAS673V4(4)
AN960D10L(4)
ECC-19 REF
(ON-2)
HL10V-5-2
HL10-5
(FOR -1 ONLY)
GF510A-5-2(2)
ON-1 ONLY
GF510A-5-3
GF510A-5-2(12)
LOW280M10087(REF)
LDW280-10355-14(ON-1)
-13(ON-2)
LDW280-10355-20(ON-1)
-19(ON-2)
LDW280-10355-20(REF)
LDW280-10355-14(REF)
LOW280M10040-1(REF)
LDW280M10087(REF)
LDW280-10354-15(ON-1)
SEE DETAIL F FOR -2
±Z0.00(REF)
SECT. K-K (ZONE 9B)
SECT. J-J (ZONE 8B)
GBIID-7-76(REF)
GBIID-1-76(REF)
5/16(TYP)
3/8(TYP)
NAS 9-1100



CODE IDENT 26512	
LDW280-28028	3

NAS 9-1100

NOTES
1- MS20426 & MS20470 RIVETS THRU INTEGRAL FLANGES OR MACHINED PARTS TO BE SQUEEZED
2- FOR NOTES MARKED (A) SEE DWG LDW280M10061 FOR CORRESPONDING HOLE PATTERN.
3- FINAL HOLE SIZE
FOR GB51IF-3 TO BE .1895-.1905
FOR GF510A-5 TO BE .164-.167
FOR GR500A-5 TO BE .160-.164
FOR HL10V-5 TO BE .1635-.1645
FOR NAS4TEV TO BE .1900-.1920
FOR GR501A-4 TO BE .129-.133
4. IT IS PERMISSIBLE TO USE GB51IF-3-3 WITH ANTISEIZE AS AN ALTERNATE FOR GB51IF-3-2
5.- BOND PER LSP14-22500 USING EPON 934 CURE IN CURE RANGE I OR II.

KEY TO PURPOSE OF HOLES, ETC., MARKED REF
EC-08 REF ENVIRONMENTAL CONTROL COOLANT DRILL "I" (.165-.171)
E19 REF ELECTRICAL DRILL "I" (.165-.171)

GB11D-1-76 MS20470AD4(2) (ON-2) SEE SECT. H-H ZONE 5A)
LDW280-28127 (REF)
-Z27.00 (REF)
+X310.500 (REF)
NAS673V4 AN960D10L
NAS682A5 MS20426AD3(1)C5K LDW280M10232(NS) LOC FROM LDW280M10061-1 (SEE NOTE 1)
LDW280-10482-11 (ON-142) MS21042L4D5(7)C5K LDW280M10232(NS) LOC FROM LDW280M10061-1 (SEE NOTE *1)
GB11D-7-76 MS20470AD4(2) (ON-2) (SEE SECT. H-K ZONE 5A)
NAS673V3 AN960D10L NAS684A3 MS20470AD3(2) C5K NS IN LDW280M10232(NS) LOC FROM LDW280M10061-1 (SEE NOTE 1)
DRILL *30dia (.1285-.1310) SEE NOTE 2 AN525-10-8(16) NAS680-A3(16) MS20426 AD5(32) C5K NS IN LDW280M10061-1 (SEE NOTE 1)
NAS673V3(12) AN960D10L(12)
GB11D-7-76 MS20470AD4(2) (ON-1)
LDW280M10232 (REF)
GB11D-1-76 MS20470AL4(2)
LDW280-10482-15 (ON-142) MS21042L4D5(3)C5K LDW280M10232(NS) LOC FROM LDW280M10061-1 (SEE NOTE *1)
NAS682A5 MS20426AD5(2)C5K LDW280M10232(NS) LOC FROM LDW280M10061-1 SEE NOTE 1
LDW280M10061-1 (REF)
GR500A-5D(5)(+Z ONLY)
LDW280-28125 (REF)
+X294.645 (REF)
NAS673V4 AN960D10L
-Z27.00 (REF)
-Y17.25 (REF)
LDW280-28127 (REF)
+X310.500 (REF)
LDW280-28125 (REF)
+X294.645 (REF)
LDW280M10004 (REF)
-Y17.25 (REF)
GB11D-1-76 (REF) GB11D-7-76 (REF)
±Y17.125
LDW280M10061 (REF)
(ON-1) (TYP)
C1 SECTION H-H (ZONE 4B)
-Y17.25 (REF)
D2 SECTION M-M (ZONE 4B)

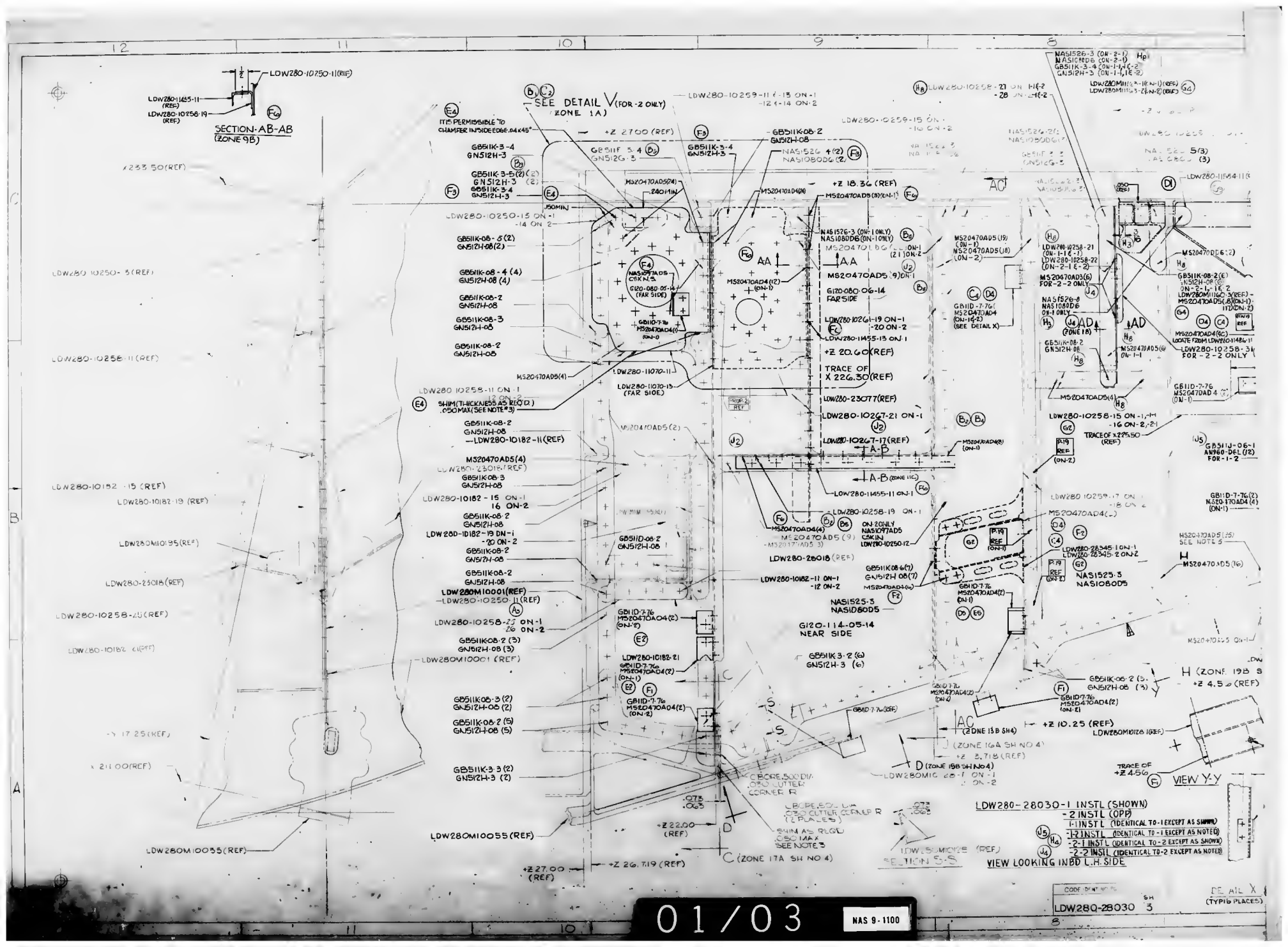
MANUFACTURING OPERATIONS
GENERAL TOLERANCE APPLIES UNLESS NOTED ✓ APPLY TO THIS DWG.
PLATE AND SHEET METAL PARTS
DEPTH DIMENSIONS FOR COUNTER BORES & FULL THRU, 2.5 DEP THRU, DRILLED PERPENDICULAR.
EXTERNAL BONDED LOCATIONS
DO NOT APPLY PRIMER & PAINT
MASKING STRIP OF 4 THK SILICONE RUBBER FOR BONDING OF OUTSIDE SURFACE PAINTING
ENGINEERING CHANGES
SEALS WITH NO SEPT PASS OF BONDED PLASTICS SOLUTION.
ALL SURFACES SHOWN TO BE WET AFTER BONDED PLATING, THICKNESS OF PLATE ARE TO BE INCL. PAINT THICKNESS TO BE ADD TO THICKNESS SHOWN ON DRAWING FOR PLATING OR SEALS
SEALED WITH BONDED SEALS PER MIL-S-81733
ALL BONDED SEALS
SEALS ALL JOINTS, SEAL PER MIL-S-81733
CONNECTION ARRANGEMENT
SEALED FASTENERS
W 1½ FASTENER DIA. TO FASTENER ℄
SEALS ✓ JOINTS SHOWN TO BE SEALED
SEALS TOLERANCE OTHERWISE TOLERANCE ON PLATING IS ± .005
SEALANT OF ALL SIDE & END OF ALL SEALS SHOWN WITH ✓ ARE TO BE APPLIED
TOLERANCE ON LISTED DIMENSIONS

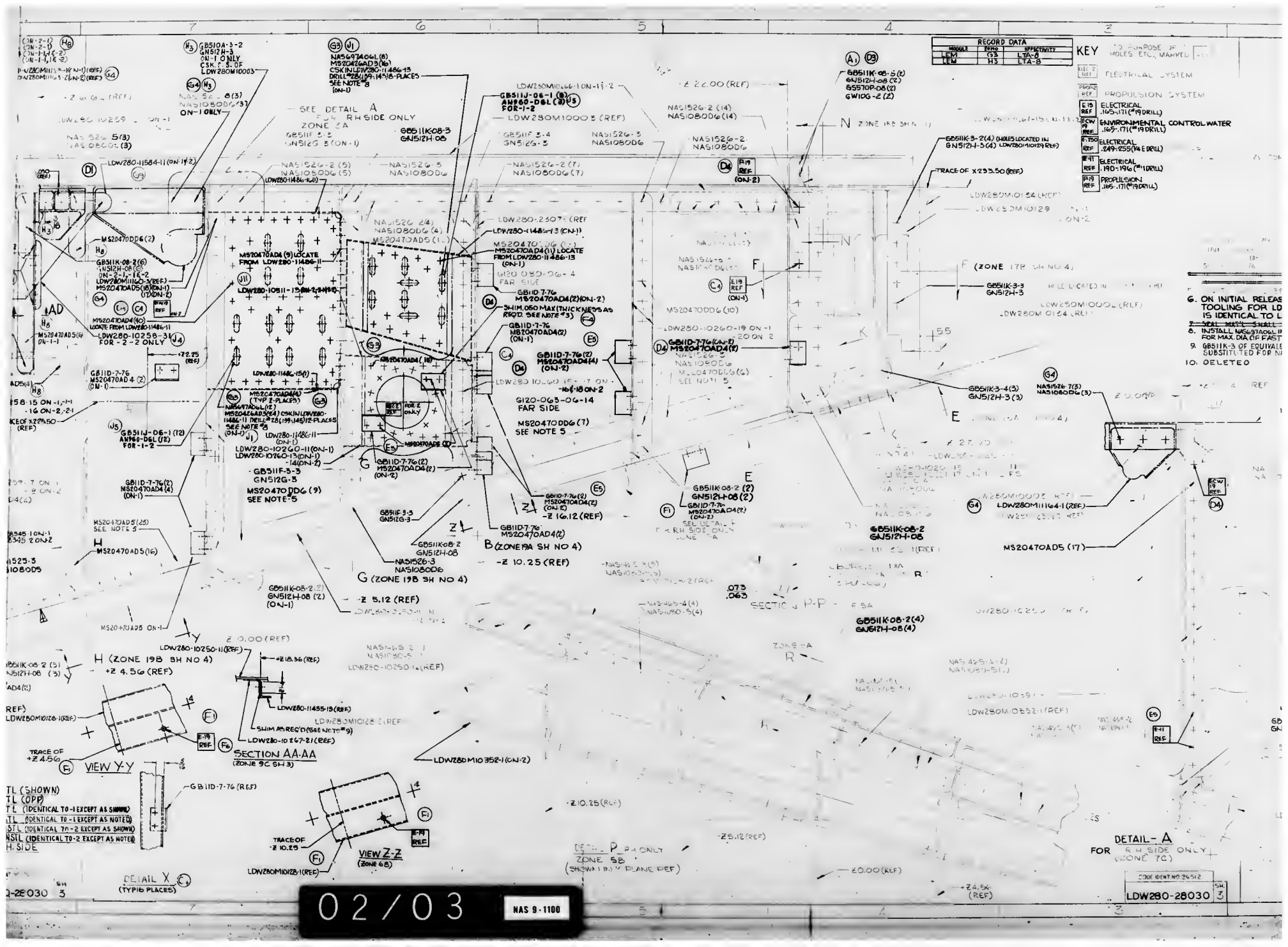
[redacted] MAS 9-1100

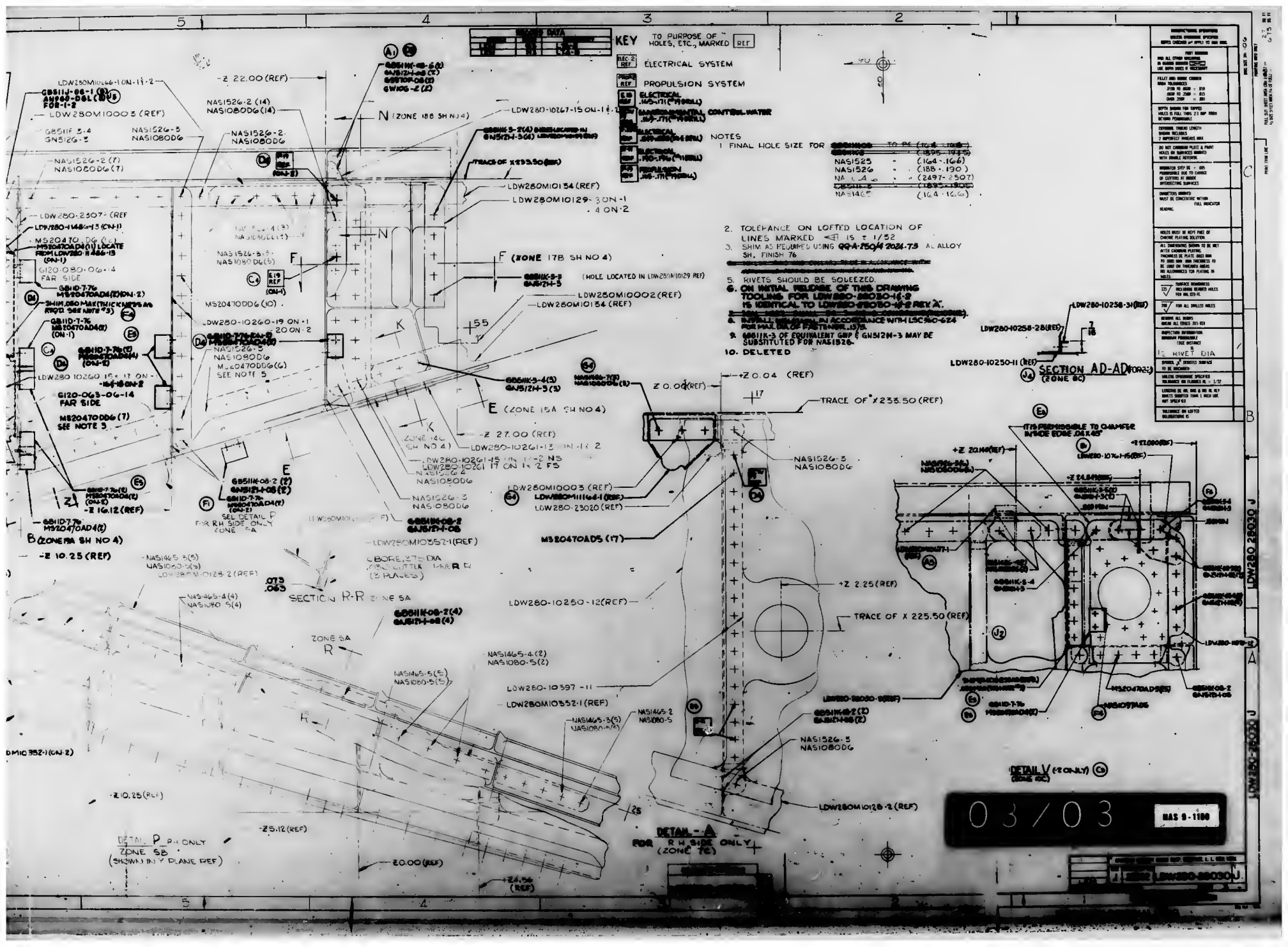
		J 26512	LDW280-28028 D
		SCALE FULL	SHT 3

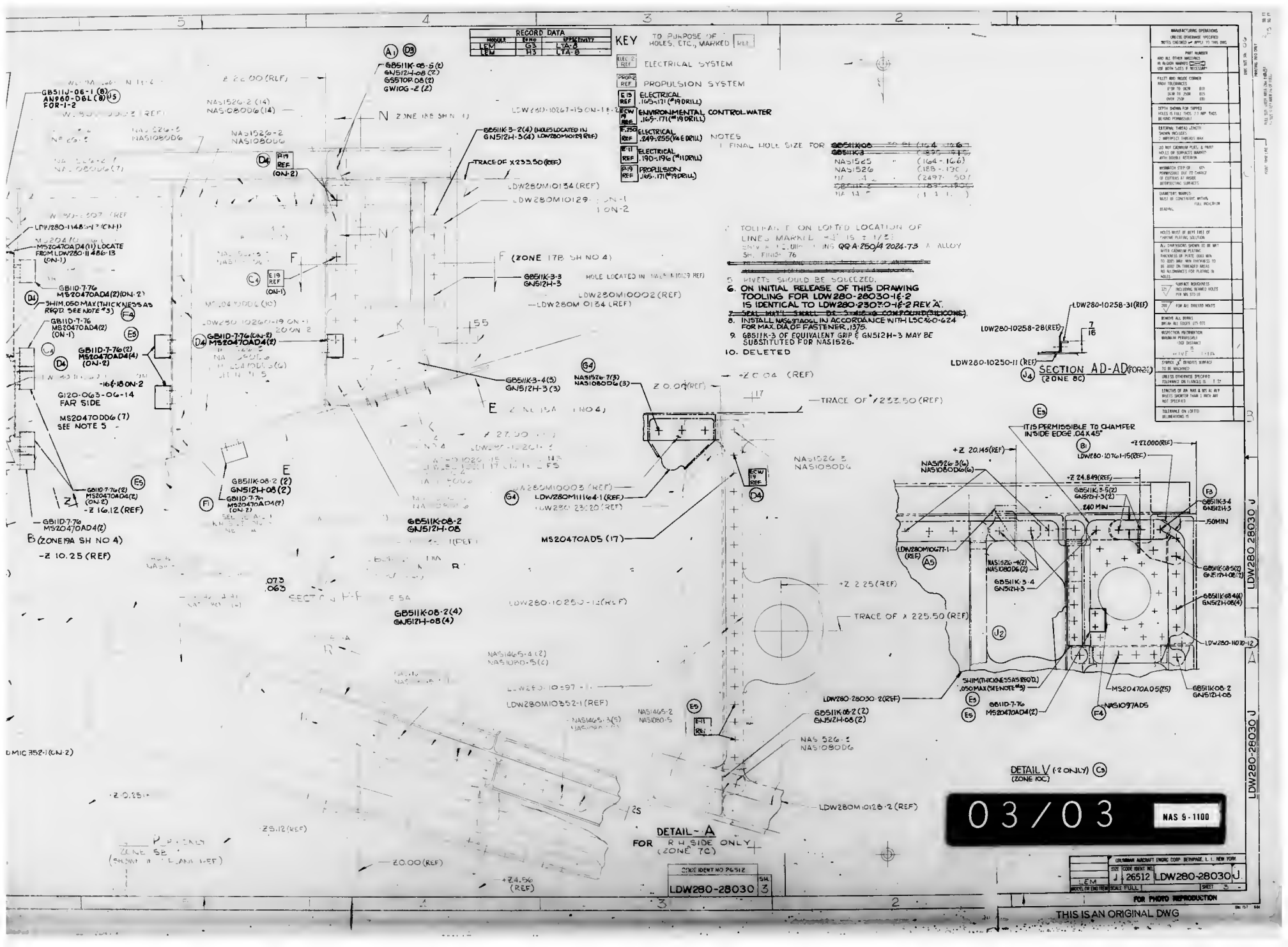
CODE IDENT 26512
LDW280-28028 3

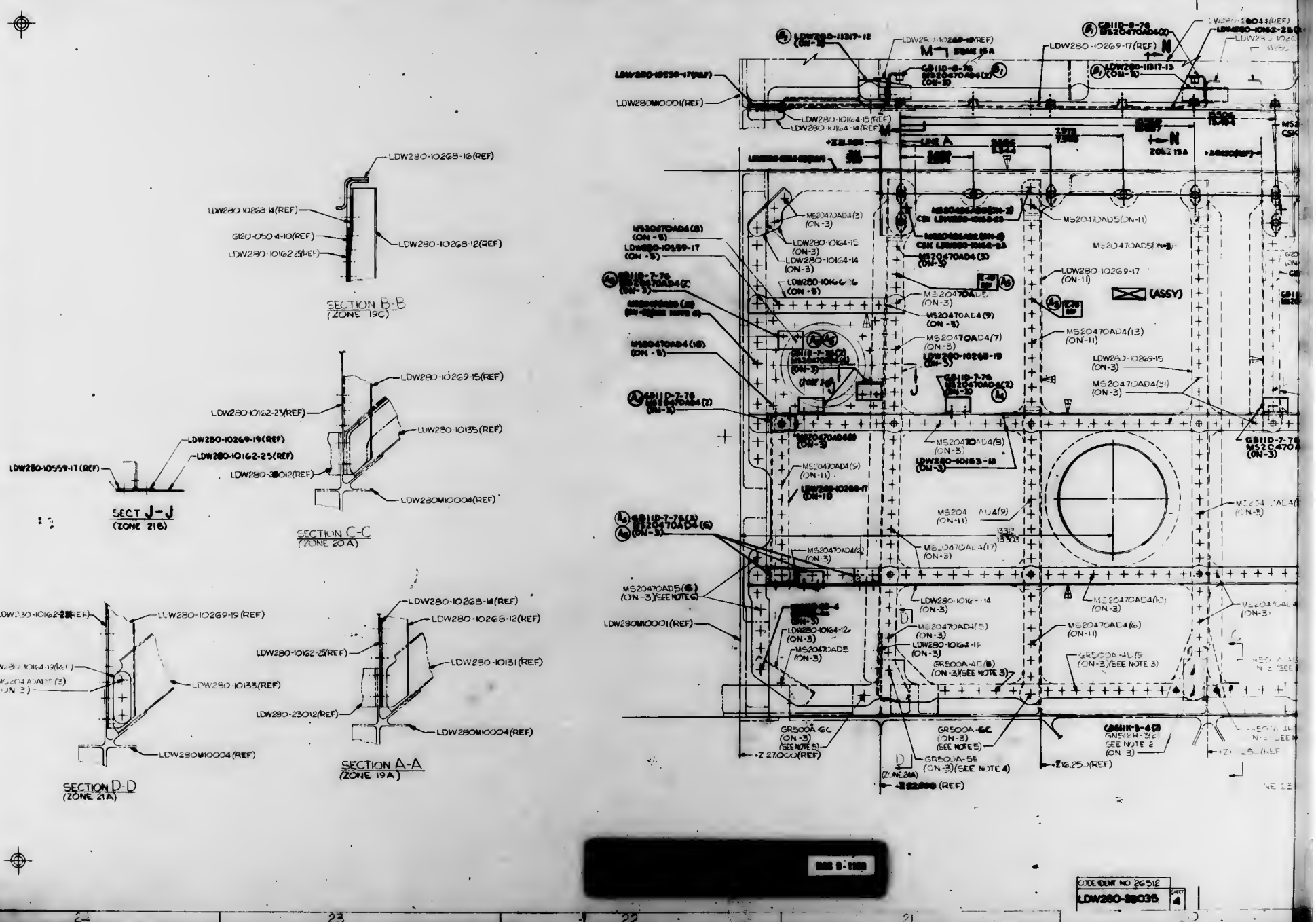
LDW280-28028 D


SECTION AB-AB (ZONE 9B)
SEE DETAIL V (FOR -2 ONLY) (ZONE 1A)
VIEW Y-Y
SECTION S-S
VIEW LOOKING INBD L.H. SIDE
LDW280-28030-1 INSTL (SHOWN)
-2 INSTL (OPP)
-1 INSTL (IDENTICAL TO -1 EXCEPT AS SHOWN)
-2-1 INSTL (IDENTICAL TO -2 EXCEPT AS NOTED)
-2-1 INSTL (IDENTICAL TO -2 EXCEPT AS SHOWN)
-2-2 INSTL (IDENTICAL TO -2 EXCEPT AS NOTED)
LDW280-28030
SH 3
01/03
NAS 9-1100


RECORD DATA
MODULE | REMO | EFFECTIVITY
LEM | G3 | LTA-6
LEM | H3 | LTA-8
KEY
PURPOSE OF HOLES ETC., MARKED
ELECTRICAL SYSTEM
PROPULSION SYSTEM
ELECTRICAL .165-.171(#19 DRILL)
ENVIRONMENTAL CONTROL WATER .165-.171(#19 DRILL)
ELECTRICAL .249-.255(¼ E DRILL)
ELECTRICAL .190-.196(#10 DRILL)
PROPULSION .165-.171(#19 DRILL)
SEE DETAIL A FOR RH SIDE ONLY ZONE 2A
VIEW Y-Y
SECTION AA-AA (ZONE 9C SH 3)
VIEW Z-Z (ZONE 6B)
DETAIL X (TYP 6 PLACES)
DETAIL - A FOR RH SIDE ONLY (ZONE 7C)
SECTION P-P
6. ON INITIAL RELEAS TOOLING FOR LD IS IDENTICAL TO L
8. INSTALL NAS6304OGL FOR MAX DIA OF FAST
9. GB511K-3 OF EQUIVALE SUBSTITUTED FOR NA
10. DELETED
CODE IDENT NO 24512
LDW280-28030 SH 3


KEY
TO PURPOSE OF HOLES, ETC., MARKED REF
ELECTRICAL SYSTEM
PROPULSION SYSTEM
ELECTRICAL
CONTROL WATER
ELECTRICAL
ELECTRICAL
PROPULSION
NOTES
1 FINAL HOLE SIZE FOR
NAS1525 - (.164-.166)
NAS1526 - (.185-.190)
NA - (.2497-.2507)
NAS1465 - (.164-.166)
2. TOLERANCE ON LOFTED LOCATION OF LINES MARKED IS ± 1/32
3. SHIM AS REQUIRED USING QQ-A-250/4 2024-T3 AL ALLOY SH, FINISH 76
5. RIVETS SHOULD BE SQUEEZED.
6. ON INITIAL RELEASE OF THIS DRAWING TOOLING FOR LDW280-28030-1(-2 IS IDENTICAL TO LDW280-28030-1(-2 REV A.
8. INSTALL SEALANT IN ACCORDANCE WITH LSC 560-624 FOR MAX. DIA OF FASTENER...15/16.
9. 68611K-3 OF EQUIVALENT GBP & GN5121H-3 MAY BE SUBSTITUTED FOR NAS1526.
10. DELETED
SECTION AD-AD (FOR ZONE BC)
DETAIL P R.H. ONLY ZONE 5B (SHOWN IN Y PLANE REF)
SECTION R-R ZONE 5A
DETAIL V (2 ONLY) (ZONE 7C)
DETAIL A FOR R.H. SIDE ONLY (ZONE 7E)
LDW280-28030J
03/03
BAS 9-1100


RECORD DATA
MODULE | SERIAL | EFFECTIVITY
LEM | GS | LTA-8
LEM | H3 | LTA-8
KEY
TO PURPOSE OF HOLES, ETC., MARKED
ELECTRICAL SYSTEM
PROPULSION SYSTEM
ELECTRICAL .165-.171 (#19 DRILL)
ENVIRONMENTAL CONTROL WATER .165-.171 (#19 DRILL)
ELECTRICAL .249-.255 (1/4 E DRILL)
ELECTRICAL .190-.196 (#11 DRILL)
PROPULSION .165-.171 (#19 DRILL)
NOTES
1 FINAL HOLE SIZE FOR
NAS1525 (.164-.166)
NAS1526 (.185-.195)
(.2497-.501)
(.1 1 1 .)
TOLERANCE ON LOCATED LINES MARKED ±.1 IS ± 1/32
5. RIVETS SHOULD BE SQUEEZED.
6. ON INITIAL RELEASE OF THIS DRAWING TOOLING FOR LDW280-28030-1E-2 IS IDENTICAL TO LDW280-28030-1E-2 REV A.
8. INSTALL NAS673A0011 IN ACCORDANCE WITH LSC82-0-624 FOR MAX. DIA OF FASTENER, .1375.
9. GB511K-3 OF EQUIVALENT GRIP & GN512H-3 MAY BE SUBSTITUTED FOR NAS1526.
10. DELETED
MANUFACTURING OPERATIONS
UNLESS OTHERWISE SPECIFIED NOTES CHECKED ✓ APPLY TO THIS DWG
PART NUMBER AND ALL OTHER MARKINGS TO BE CAD MARKED OR WITH SIZES IF NECESSARY
FILLET AND INSIDE CORNER RADII TOLERANCES
0 TO 31/64 .015
33/64 TO 250 .015
OVER 250 .030
DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS. TO AMP THDS. BEYOND PERMISSIBLE
EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 AMP INCOMPLETE THREADS MAX
DO NOT CADMIUM PLAT, & PAINT HOLES OR SURFACES MARKED WITH DOUBLE NOTATION
ROUGHNESS STEP OF 125 PERMISSIBLE DUE TO CHANGE OF DIFFERENT ANGLE BETWEEN MATING SURFACES
DIAMETRIC MARKS MUST BE CONCENTRIC WITHIN FULL INDICATION READING
HOLES MUST BE FREE FROM ANY TYPE OF FINISHING PLATING SOLUTION
ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING. THICKNESS OF PLATE COULD VARY TO .0005 MAX. WHEN THICKNESS TO BE HELD ON THREADED AREAS NO ALLOWANCES FOR PLATING IN HOLES.
SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL STD 10
FOR ALL DRILLED HOLES
REMOVE ALL BURRS BREAK ALL EDGES .015 MIN
INSPECTION INFORMATION MINIMUM PERMISSIBLE INSP DISTANCE
CHAMFER ALL EXPOSED SURFACE TO BE MACHINED
UNLESS OTHERWISE SPECIFIED TOLERANCE ON FILLETS IS ± 1/2
LOCATIONS OF AN NAS & MS AT ANY RIVETS SHORTER THAN 1 INCH ARE NOT SPECIFIED
TOLERANCE ON LOCATED DIMENSIONS IS
GB511J-06-1 (8) AN960-D6L (8) J5 FOR I-2
NAS1526-2 (14) NAS1080D6 (14)
NAS1526-3 NAS1080D6
GB511K-3-2(4) (HOLES LOCATED IN GN512H-3(4) LDW280M10129 REF)
TRACE OF X233.50 (REF)
LDW280M10134 (REF)
LDW280M10129
(ZONE 17B SH NO 4)
GB511K-3-3 GN512H-3
HOLE LOCATED IN
LDW280M10002 (REF)
LDW280M10134 (REF)
GB110-7-76 MS20470AD4(2)(ON-2)
5 SHIM .050 MAX (THICKNESS AS REQ'D SEE NOTE *3)
GB110-7-76 MS20470AD4(2) (ON-1)
GB110-7-76(2) MS20470AD4(4) (ON-2)
-16.18 ON-2
G120-063-06-14 FAR SIDE
MS20470DD6 (7) SEE NOTE 5
GB110-7-76(2) MS20470AD4(2) (ON-2)
-Z 16.12 (REF)
GB110-7-76 MS20470AD4(2)
B (ZONE 19A SH NO 4)
-Z 10.25 (REF)
GB110-7-76(2) MS20470AD4(2) (ON-2)
GB110-7-76 MS20470AD4(2) (ON-2)
GB511K-08-2 (2) GN512H-08 (2)
GB511K-08-2 GN512H-08
GB511K-08-2(4) GN512H-08(4)
.073 .063
SECTION H-H
NAS1465-4(2) NAS1080-5(2)
LDW280M10352-1 (REF)
LDW280M10352-1(CN-2)
-Z 10.25
-Z 12.12 (REF)
P.H. ONLY ZONE 5E (SHOWN IN L.H. SIDE REF)
-Z 0.00 (REF)
+Z 4.56 (REF)
GB511K-3-4(5) GN512H-3(3)
NAS1526-7(3) NAS1080D6(3)
-Z 0.04 (REF)
+Z 0.04 (REF)
TRACE OF X233.50 (REF)
MS20470AD5 (17)
GB511K-08-2 GN512H-08
LDW280M10003 (REF)
LDW280M11164-1 (REF)
LDW280-23020 (REF)
LDW280-10250-12 (REF)
TRACE OF X 225.50 (REF)
+Z 2.25 (REF)
NAS1526-3 NAS1080D6
+Z 20.145 (REF)
+Z 27.000 (REF)
LDW280-10761-15 (REF)
+Z 24.849 (REF)
GB511K-3-5(2) GN512H-3(2)
.240 MIN
GB511K-3-4 GN512H-3
.150 MIN
LDW280M10677-1 (REF)
NAS1526-4(2) NAS1080D6(2)
GB511K-3-4 GN512H-3
GB511K-08-5(2) GN512H-08(2)
GB511K-08-4(4) GN512H-08(4)
LDW280-10270-12
LDW280-28030-2 (REF)
SHIM (THICKNESS AS REQ'D) .050 MAX (SEE NOTE *3)
GB110-7-76 MS20470AD4(2)
MS20470A05(25)
NAS1097AD5
GB511K-08-2 GN512H-08
GB511K-08-2(2) GN512H-08(2)
NAS 526-3 NAS1080D6
LDW280M10128-2 (REF)
DETAIL-A FOR R.H. SIDE ONLY (ZONE 7C)
DETAIL V (2 ONLY) (ZONE 10C)
LDW280-10258-31 (REF)
LDW280-10258-28 (REF)
7/16
LDW280-10250-11 (REF)
SECTION AD-AD (FOR 2) (ZONE 8C)
IT IS PERMISSIBLE TO CHAMFER INSIDE EDGE .04 X 45°
CODE IDENT NO 26512
LDW280-28030
SH. 3
03/03
NAS 9-1100
GRUMMAN AIRCRAFT ENGRG CORP BETHPAGE, L.I., NEW YORK
SIZE CODE IDENT NO. J 26512 LDW280-28030 J
LEM
SCALE FULL
SHEET 5
FOR PHOTO REPRODUCTION
THIS IS AN ORIGINAL DWG
LDW280-28030 J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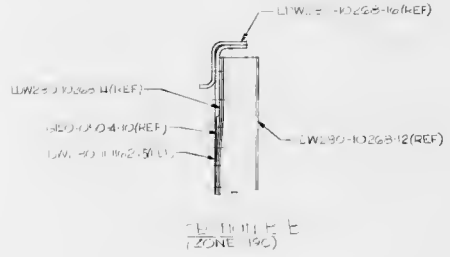
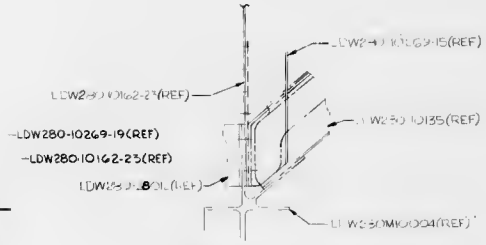
LDW280-10268-14(REF)
G120-050 4-10(REF)
LDW280-10162-25(REF)
LDW280-10268-12(REF)
SECTION B-B
(ZONE 19C)
LDW280-10269-15(REF)
LDW280-10162-23(REF)
LDW280-10269-19(REF)
LDW280-10162-25(REF)
LDW280-10559-17(REF)
LDW280-23012(REF)
LDW280-10135(REF)
LDW280M10004(REF)
SECT J-J
(ZONE 21B)
SECTION C-C
(ZONE 20A)
LDW280-10162-23(REF)
LDW280-10269-19(REF)
LDW280-10164-19(REF)
MS20470AD4(3)
(ON-3)
LDW280-10133(REF)
LDW280M10004(REF)
SECTION D-D
(ZONE 21A)
LDW280-10268-14(REF)
LDW280-10268-12(REF)
LDW280-10162-25(REF)
LDW280-10131(REF)
LDW280-23012(REF)
LDW280M10004(REF)
SECTION A-A
(ZONE 19A)
LDW280-11217-12
LDW280-10269-17(REF)
LDW280M10001(REF)
LDW280-10164-15(REF)
LDW280-10164-14(REF)
LINE A
MS20470AD4(3)
(ON-3)
MS20470AD4(8)
(ON-5)
LDW280-10559-17
(ON-5)
LDW280-10164-15
(ON-3)
LDW280-10164-14
(ON-3)
LDW280-10269-17
(ON-11)
(ASSY)
MS20470AD4(9)
(ON-5)
MS20470AD4(7)
(ON-3)
LDW280-10268-12
(ON-5)
MS20470AD4(13)
(ON-11)
LDW280-10269-15
(ON-3)
MS20470AD4(31)
(ON-3)
MS20470AD4(10)
(ON-5)
MS20470AD4(2)
(ON-3)
MS20470AD4(8)
(ON-3)
LDW280-10163-13
(ON-3)
MS20470AD4(9)
(ON-11)
MS20470AD4(17)
(ON-3)
MS20470AD4(6)
(ON-3)
MS20470AD5(6)
(ON-3)(SEE NOTE 6)
LDW280-10164-14
(ON-3)
MS20470AD4(5)
(ON-3)
LDW280-10164-12
(ON-3)
MS20470AD5
(ON-3)
LDW280-10164-15
(ON-3)
GR500A-4D(8)
(ON-3)(SEE NOTE 3)
MS20470AD4(10)
(ON-3)
MS20470AD4(6)
(ON-11)
GR500A-4L(6)
(ON-3)(SEE NOTE 3)
GR500A-6C
(ON-3)
(SEE NOTE 5)
GR500A-6C
(ON-3)
(SEE NOTE 5)
GR500A-5E
(ON-3)(SEE NOTE 4)
GR4HR-3-4(2)
SEE NOTE 2
(ON 3)
-Z 27.000(REF)
+216.250(REF)
(ZONE 24A)
CODE IDENT NO 26512
LDW280-10035
SHEET 4

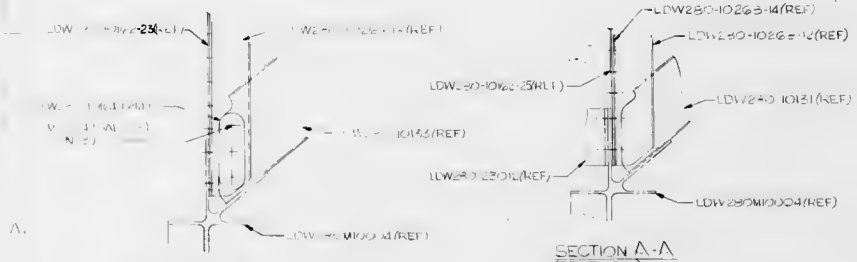


SECTION E-E
(ZONE 19C)



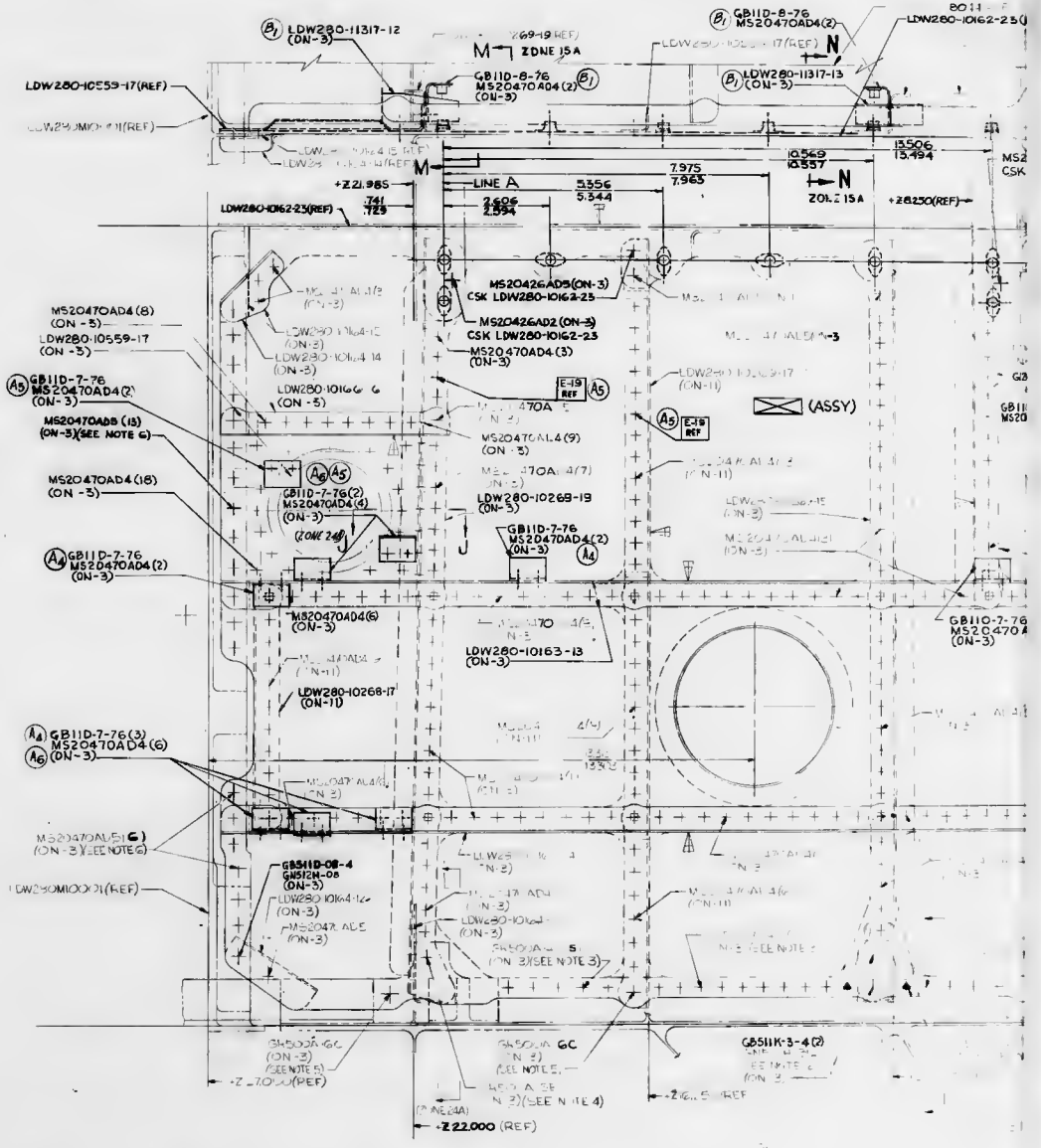
SECT J-J
(ZONE 21B)

SECTION C-C
(ZONE 21A)



SECTION D-D
(ZONE 21A)

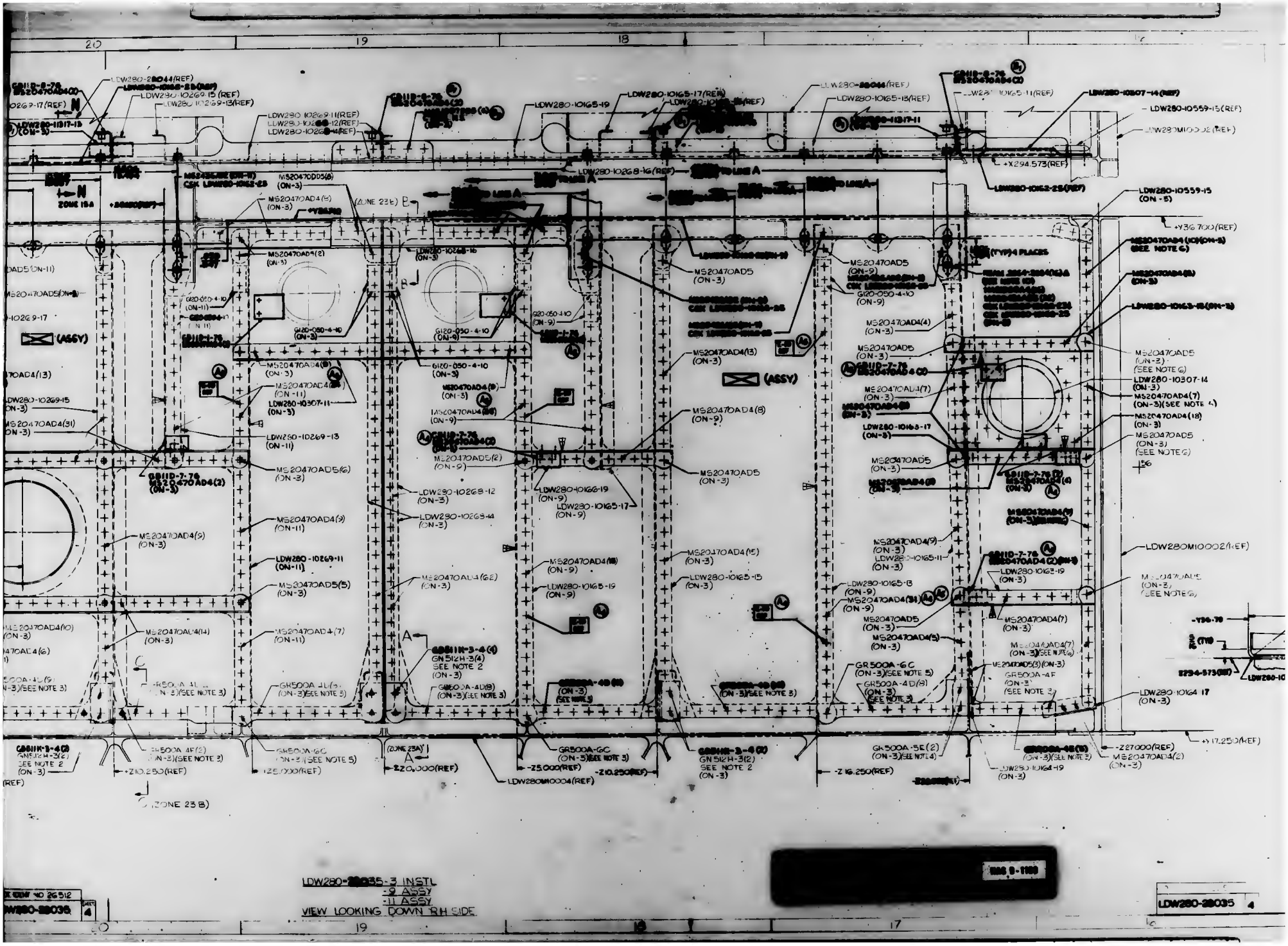
SECTION A-A
(ZONE 19A)

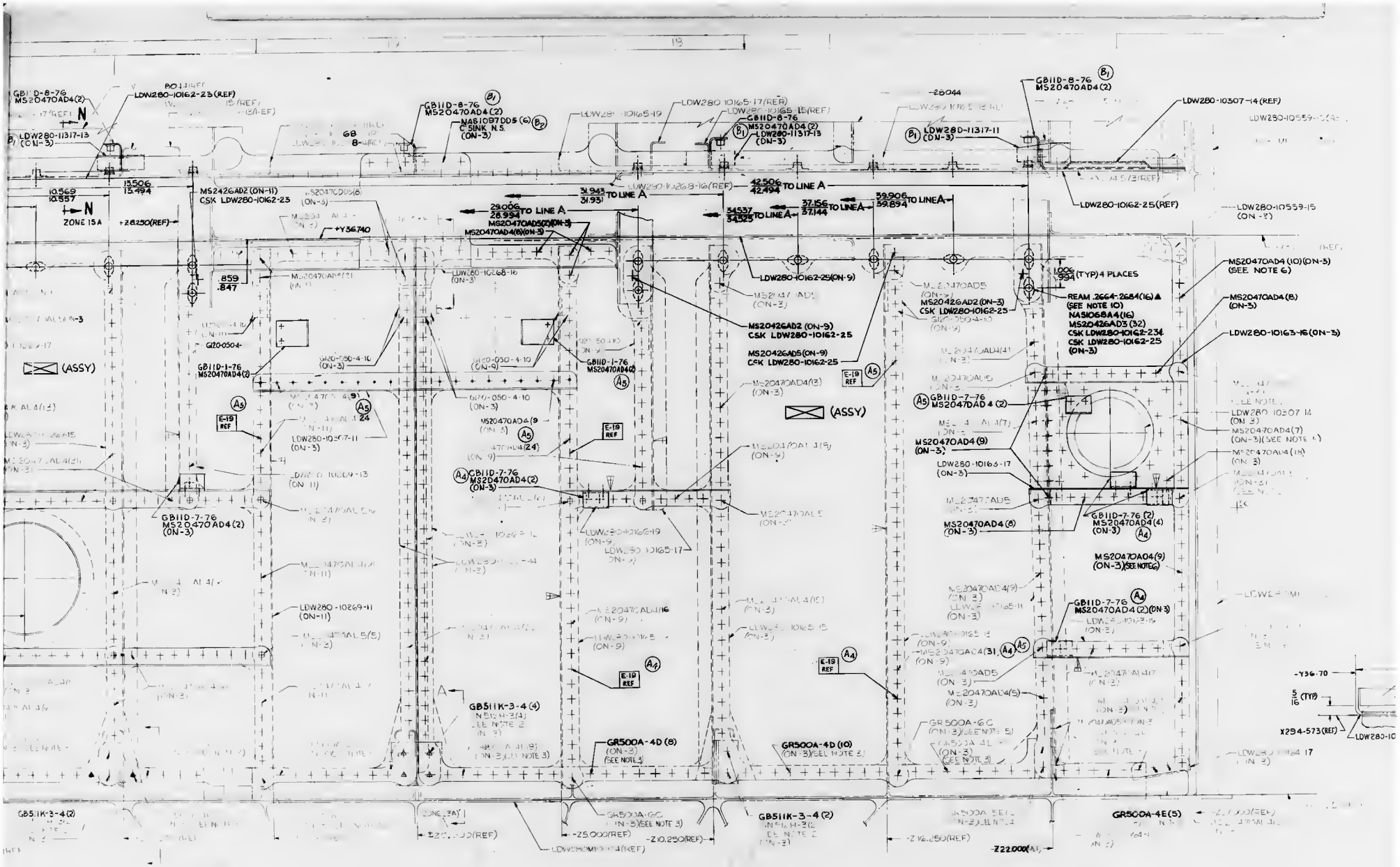


01/03

NAS 9-1100

CODE IDENT NO 26512
LDW280-28035 4

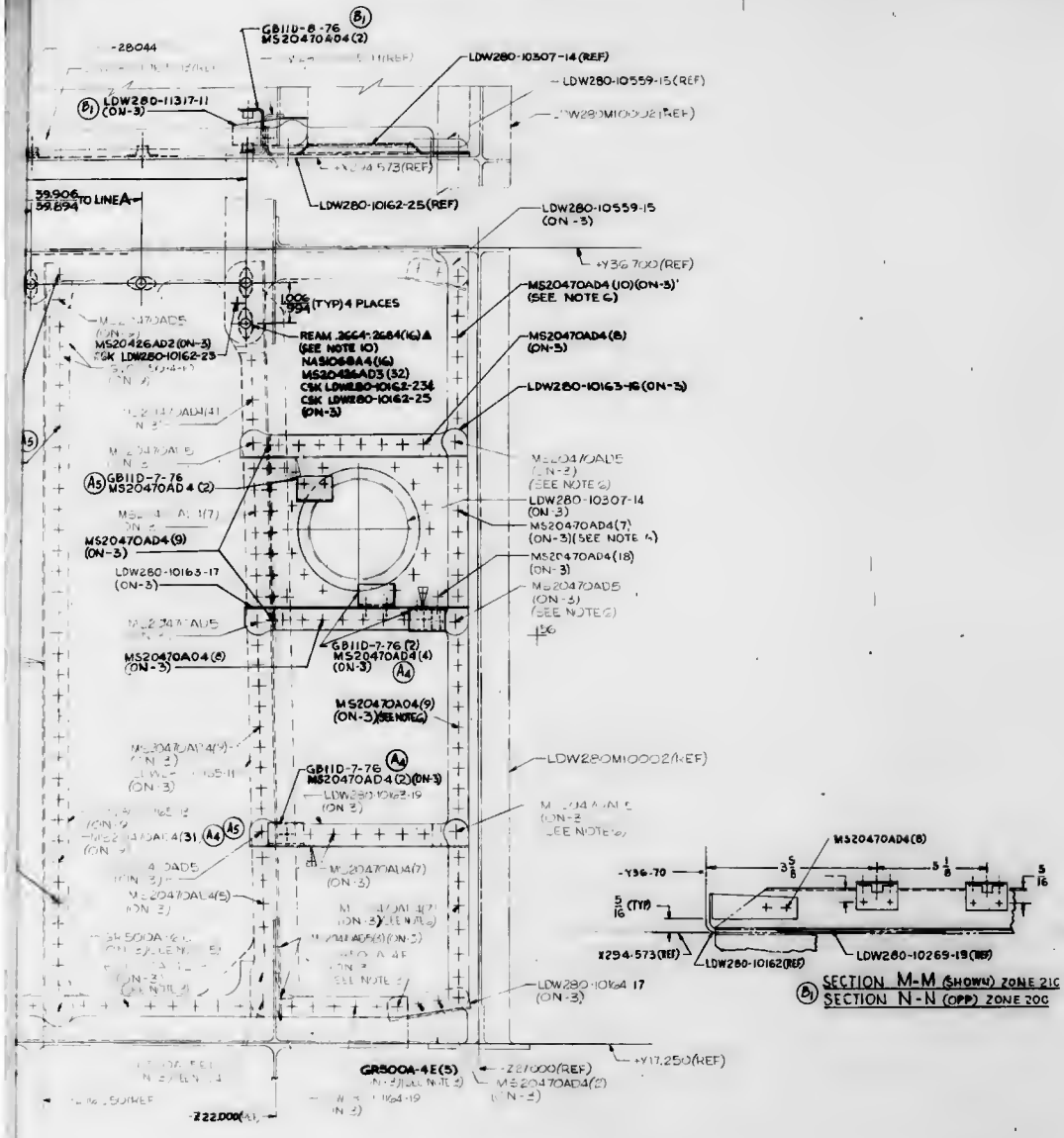

LDW280-28035-3 INSTL
-9 ASSY
-11 ASSY
VIEW LOOKING DOWN RH SIDE
LDW280-28035 4



02/03 NAS 8-1100

LDW280-28035-3 INSTL

VIEW LOOKING DOWN AFT



03/03

NAS 9-1100

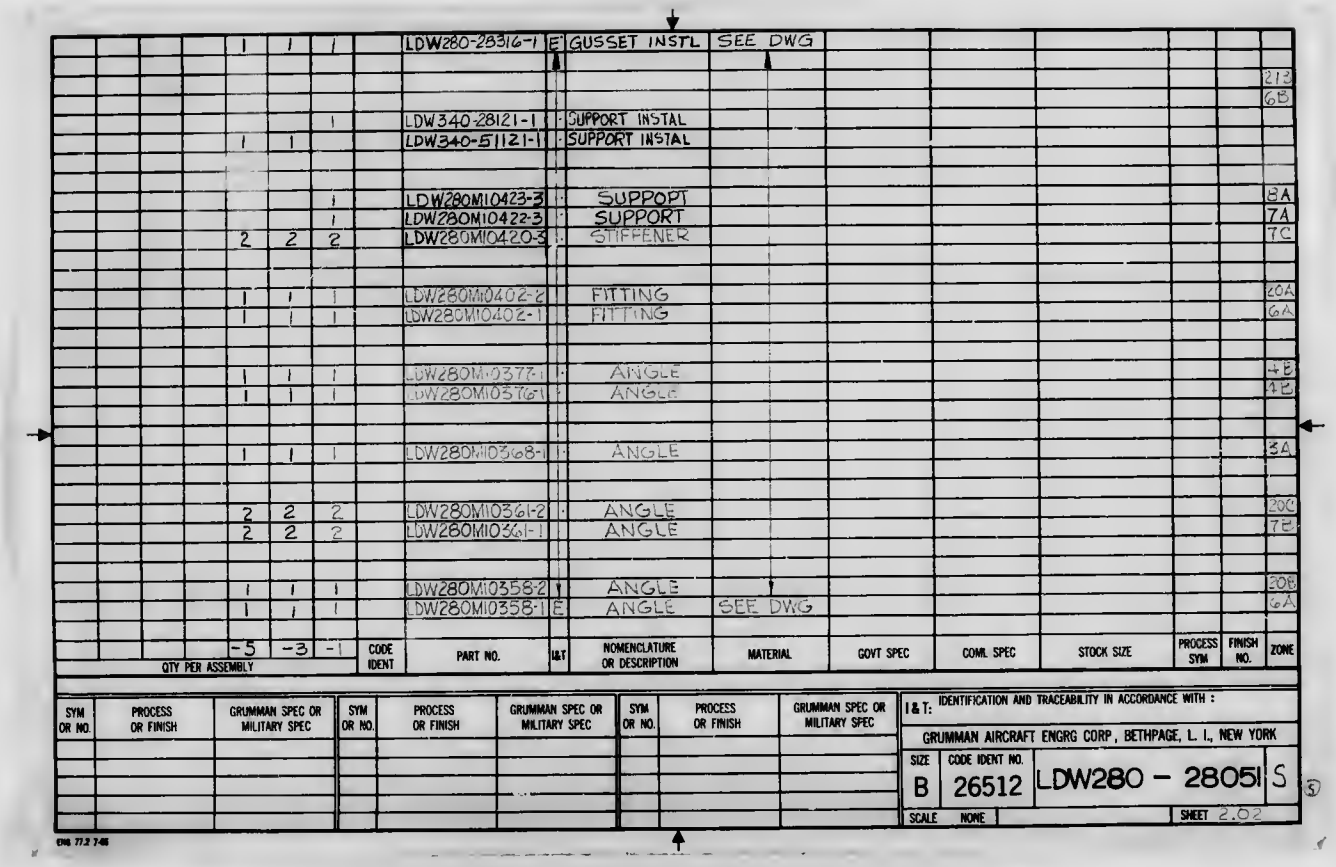
GRUMMAN AIRCRAFT ENGRG CORP BETHPAGE, L.I., N.Y.			
LEM	26512	J	LDW280-28035 B

13 THIS IS AN ORIGINAL DRAWING

LDW280-28035 4

LDW280-28035 B

LDW280-28035 B



QTY PER ASSEMBLY -5	QTY PER ASSEMBLY -3	QTY PER ASSEMBLY -1	CODE IDENT	PART NO.	I&T	NOMENCLATURE OR DESCRIPTION	MATERIAL	GOVT SPEC	COML SPEC	STOCK SIZE	PROCESS SYM	FINISH NO.	ZONE
1	1	1		LDW280-28316-1	E	GUSSET INSTL	SEE DWG						21J
													6B
		1		LDW340-28121-1		SUPPORT INSTAL							
1	1			LDW340-51121-1		SUPPORT INSTAL							
		1		LDW280M10423-3		SUPPORT							8A
		1		LDW280M10422-3		SUPPORT							7A
2	2	2		LDW280M10420-3		STIFFENER							7C
1	1	1		LDW280M10402-2		FITTING							20A
1	1	1		LDW280M10402-1		FITTING							6A
1	1	1		LDW280M10377-1		ANGLE							4B
1	1	1		LDW280M10376-1		ANGLE							1B
1	1	1		LDW280M10368-1		ANGLE							3A
2	2	2		LDW280M10361-2		ANGLE							20C
2	2	2		LDW280M10361-1		ANGLE							7B
1	1	1		LDW280M10358-2		ANGLE							20B
1	1	1		LDW280M10358-1	E	ANGLE	SEE DWG						6A

SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC

I&T: IDENTIFICATION AND TRACEABILITY IN ACCORDANCE WITH :

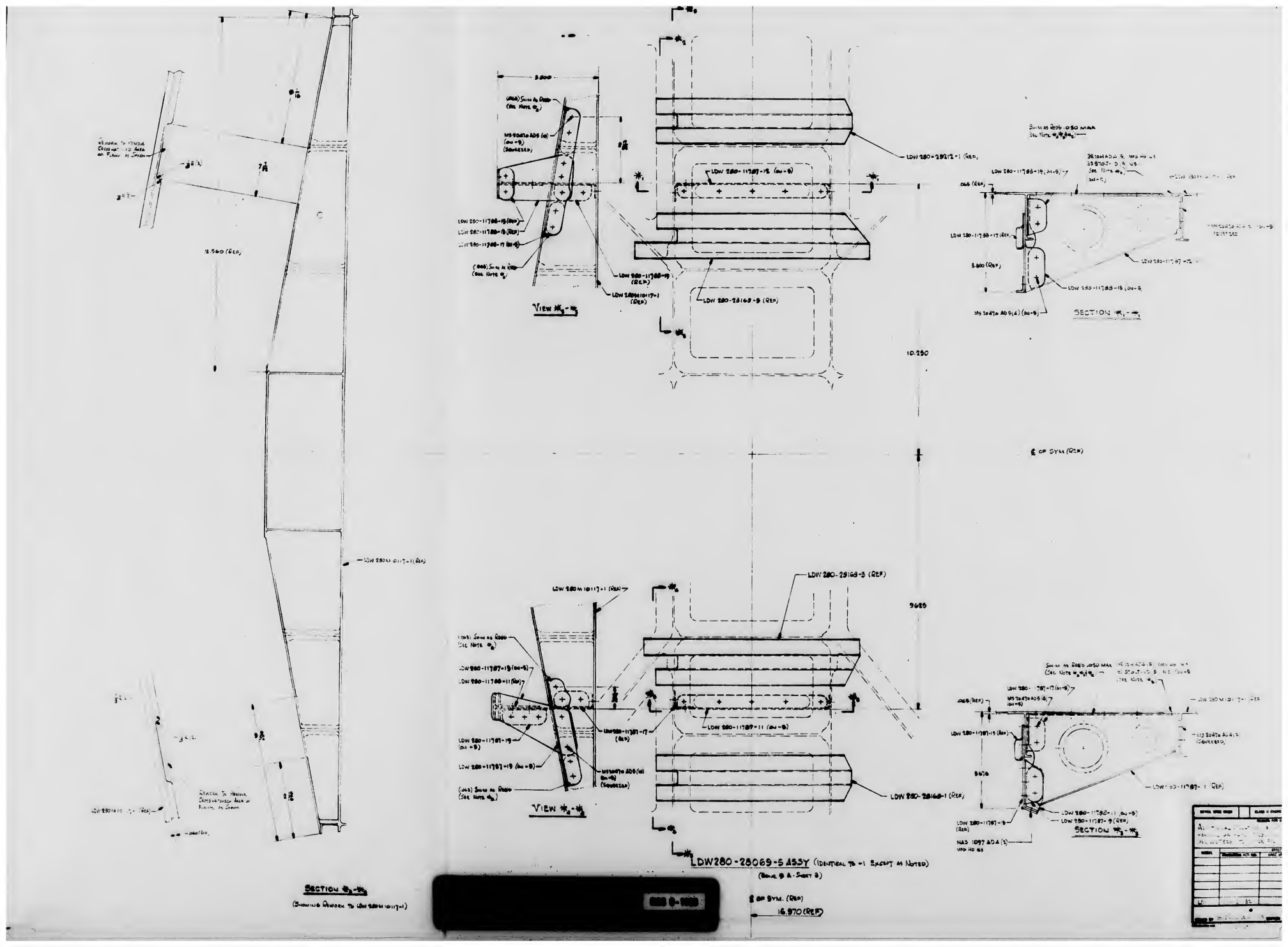
GRUMMAN AIRCRAFT ENGRG CORP, BETHPAGE, L. I., NEW YORK

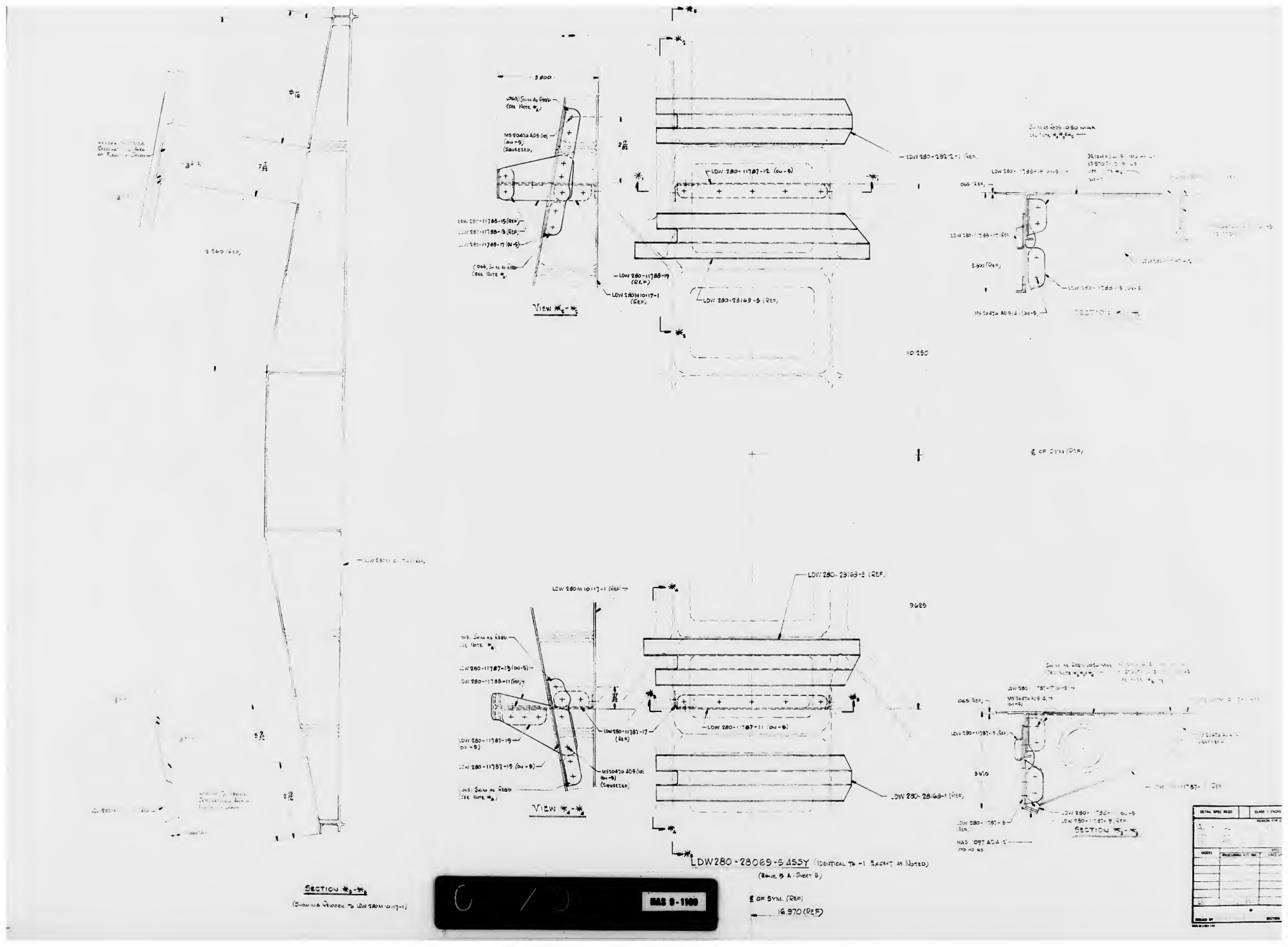
SIZE	CODE IDENT NO.	
B	26512	LDW280 – 28051 S

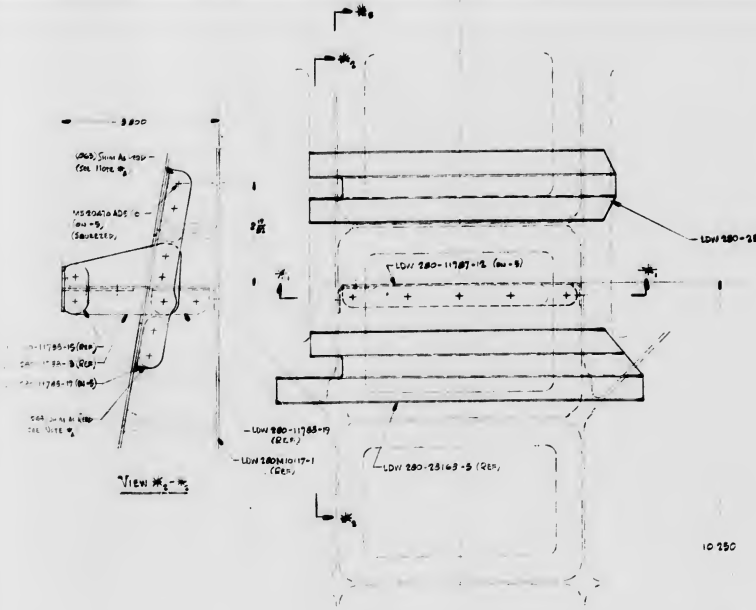
SCALE NONE SHEET 2.02

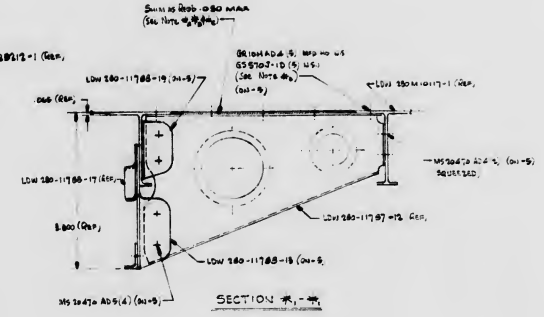
ENG 77.2 7-65

01 NAS 9-1100


LDW280-28069-5 ASSY (IDENTICAL TO -1 EXCEPT AS NOTED)
(BASIC PART A-SHEET 3)
SECTION (SHOWING REWORK TO LDW280M10117-1)
VIEW
SECTION
LDW280M10117-1 (REF)
LDW280-28168-5 (REF)
LDW280-28168-1 (REF)
LDW280-28212-1 (REF)
LDW280-11787-19 (REF)
LDW280-11787-17 (REF)
LDW280-11787-11 (REF)
LDW280-11788-19 (REF)
LDW280-11788-17 (REF)
LDW280-11788-11 (REF)
LDW280-11788-9 (REF)
LDW280-11788-7 (REF)
LDW280A10417-1 (REF)
NAS1097AD4(5)
MS20470AD5(4)
MS20470AD6(4)
MS20470AD9(4)
(.063) SKIN AS REQD (SEE NOTE)
SKIN AS REQD .050 MAX (SEE NOTE)
10.250
9.620
16.970 (REF)
℄ OF SYM. (REF)


LDW280-28069-5 ASSY (IDENTICAL TO -1 EXCEPT AS NOTED)
(REVS. 5 A - SHEET 8)
SECTION
(SHOWING REWORK TO LDW280M10117-1)
VIEW
SECTION
NAS 8-1100
16.970 (REF)
10.250
9.625
9.470




SHIM AS REQD .050 MAX (SEE NOTE *a *b *c)
LDW 280-11788-19 (QU-5)
LDW 280-11788-17 (REF)
LDW 280M10117-1 (REF)
MS 20470 AD5 (4) (QU-5)
LDW 280-11787-12 REF
LDW 280-11785-15 (QU-5)
SECTION *a - *a

Notes:

*a SHIM AS REQD USING BMS 8-314, TYPE I, GRADE A, CLASS 2 FINISH *26

*b SEAL PER LSP 14-14102 AREAS NOTED

*c BOND SHIM TO PRESSURE SURFACE OF LDW 280M10117-1 USING EPOXY 934 PER LSP 14-22500, CURE CYCLE III.

10.250

℄ OF SYM (REF)

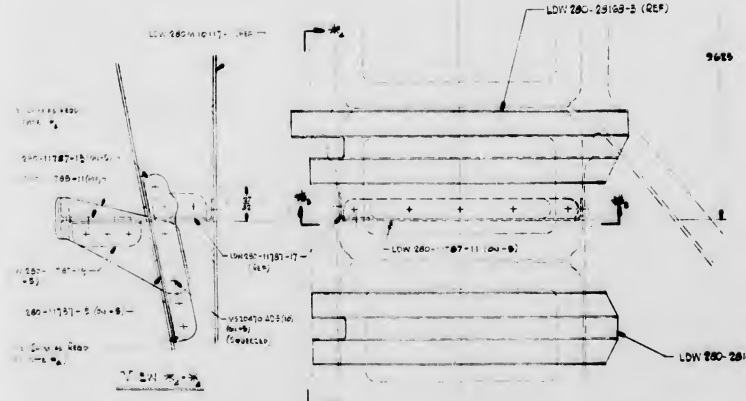
14.469 (REF)

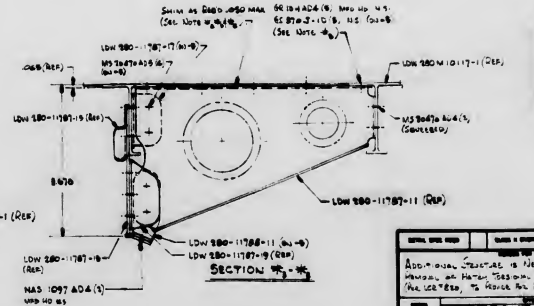
CREATE -5 ASSEMBLY (IDENTICAL TO -1 EXCEPT AS NOTED) FOR LM-2 (82) EFFECTIVITY N/A LDW 280-28068 . REQ'D (-5 MAY BE REWORKED FROM -1).

RESTRICT -1 TO LTA-8 (18) AND LM-1 (81)

[redacted]

* USE NEXT AVAILABLE LETTER/NUMBER





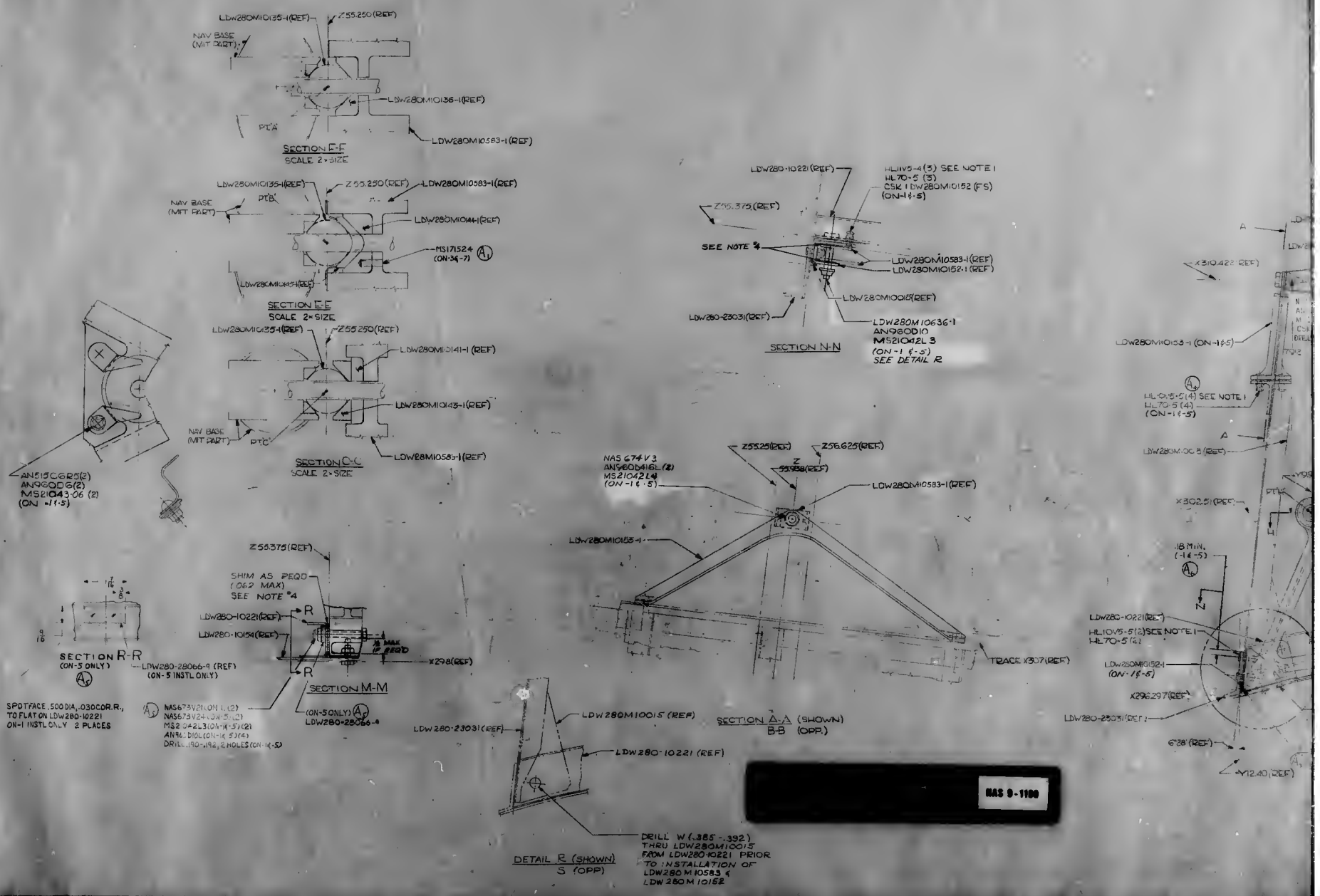
LDW280-28069-5 ASSY (IDENTICAL TO -1 EXCEPT AS NOTED)

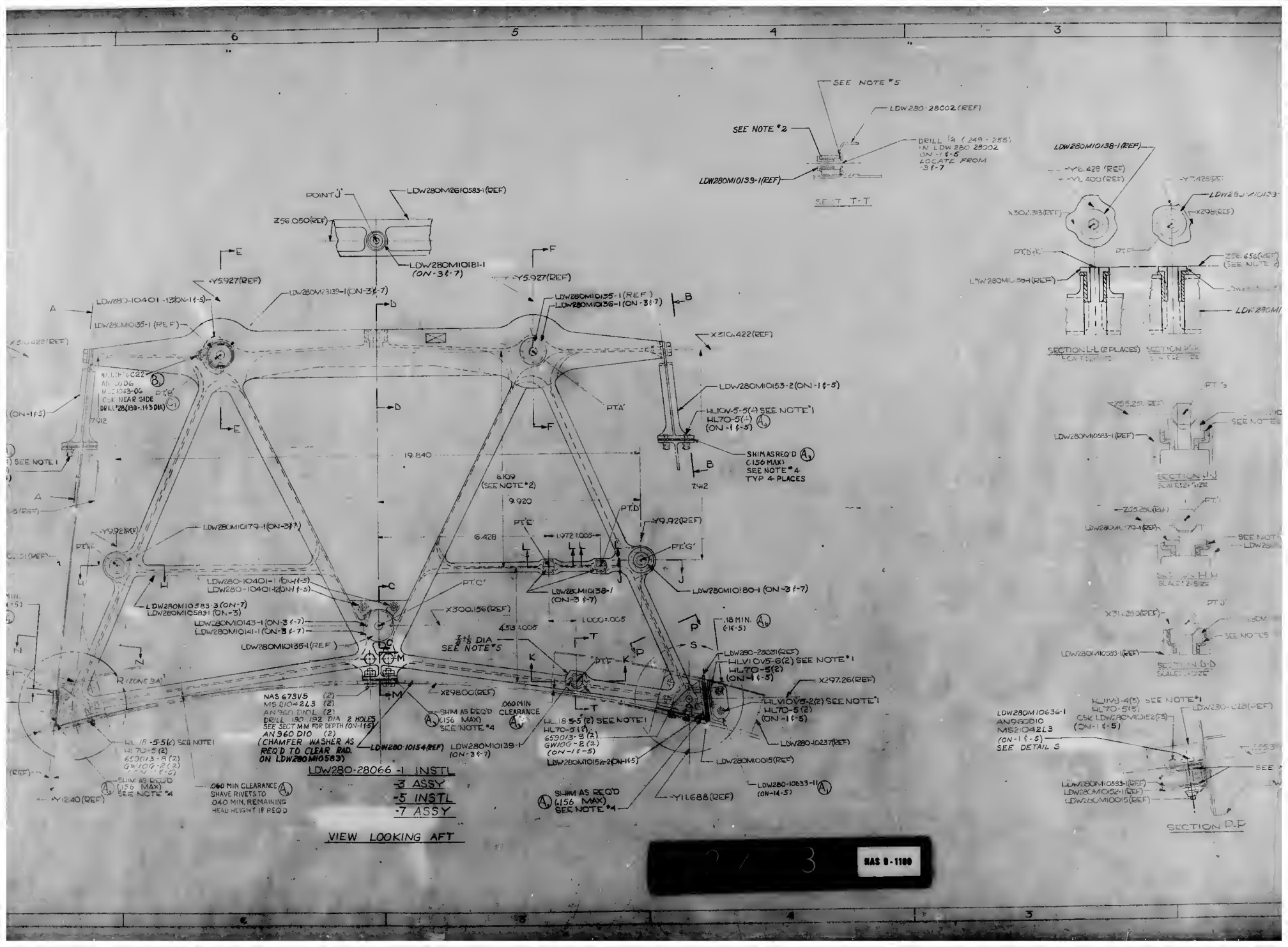
(SHEET 9 A-SHEET 8)

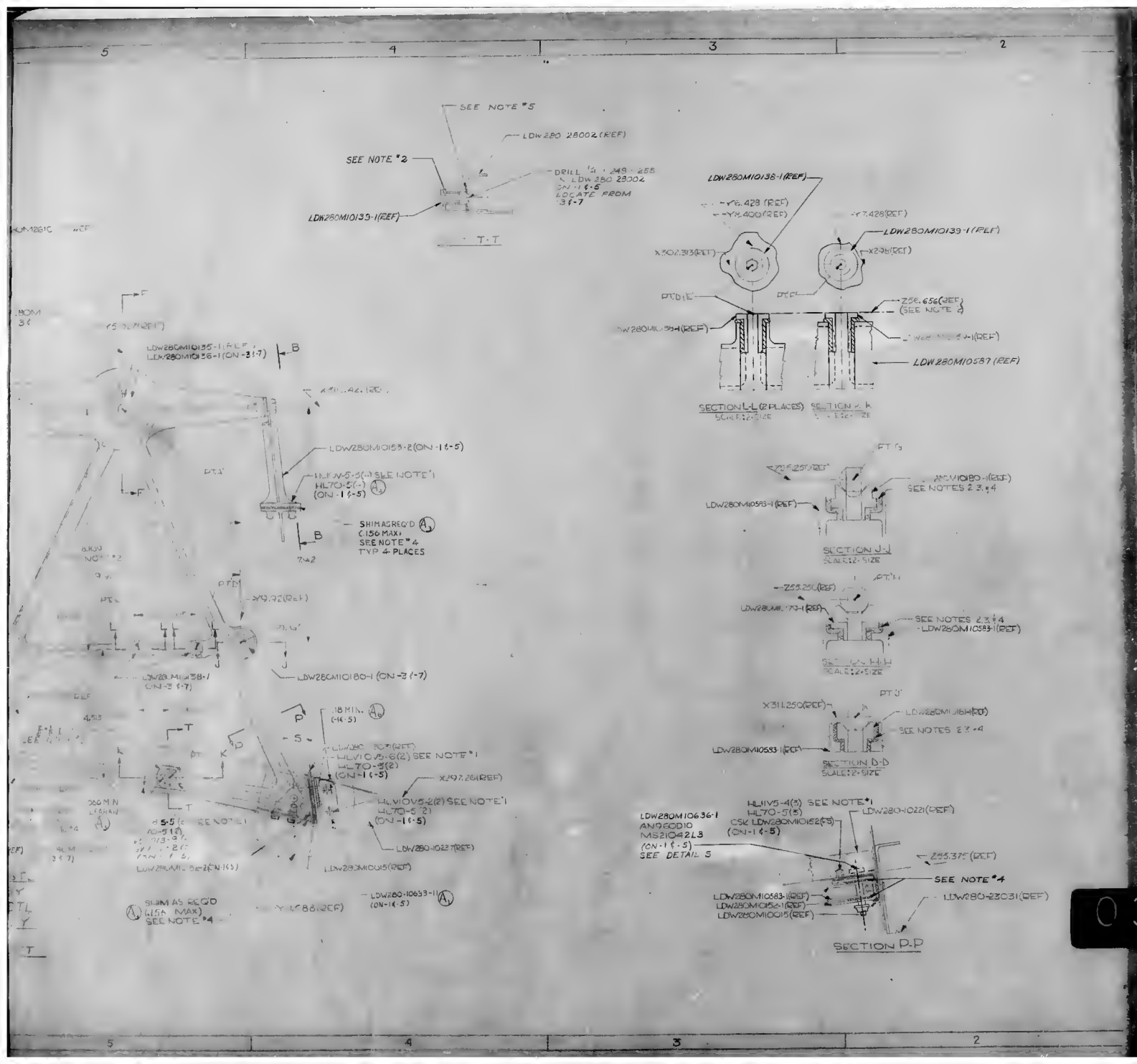
℄ OF SYM. (REF)

16.970 (REF)

ADDITIONAL STRUCTURE IS NECESSITATED DUE TO REMOVAL OF HATCH TORSIONAL RETENTION SYSTEM. NOT REQ'D TO REMOVE FOR INSPECTION LOADS	CREATED -5 ASSEMBLY -1 SHEET ARW ADD'S 3), -2 & -3 PER ARW'S *a, *b, *c						
LW	LM-2 (82)	C	HATCH ASSEMBLY - ASSEMBLY STAGE. TO SECTION. UNDER RECEIVING			LDW 280-28068	C


LDW280M10135-1(REF)
Z55.250(REF)
NAV BASE (MIT PART)
LDW280M10136-1(REF)
PT'A'
LDW280M10583-1(REF)
SECTION F-F
SCALE 2×SIZE
LDW280M10135-1(REF)
Z55.250(REF)
LDW280M10583-1(REF)
NAV BASE (MIT PART)
PT'B'
LDW280M10144-1(REF)
MS17152-4 (ON-34-7)
LDW280M10145-1(REF)
SECTION E-E
SCALE 2×SIZE
LDW280M10135-1(REF)
Z55.250(REF)
LDW280M10141-1 (REF)
LDW280M10143-1(REF)
NAV BASE (MIT PART)
PT'C'
LDW28M10583-1(REF)
SECTION C-C
SCALE 2-SIZE
AN515C6R5(2)
AN960D6(2)
MS21043-06 (2)
(ON -11-5)
LDW280-10221(REF)
HLL10V5-4(3) SEE NOTE 1
HL70-5 (3)
CSK 1 DW280M10152 (FS)
(ON-1 & -5)
Z56.375(REF)
SEE NOTE 4
LDW280M10583-1(REF)
LDW280M10152-1(REF)
LDW280M10015(REF)
LDW280-23031(REF)
LDW280M10636-1
AN960D10
MS21042L3
(ON-1 & -5)
SEE DETAIL R
SECTION N-N
X310.422 REF
LDW280M10153-1 (ON-1 & -5)
HLL10V5-5(4) SEE NOTE 1
HL70-5 (4)
(ON-1 & -5)
LDW280M10038(REF)
Z55.250(REF)
Z56.625(REF)
Z55.938(REF)
NAS 674V3
AN960D416L (2)
MS21042L4
(ON-1 & -5)
LDW280M10583-1(REF)
LDW280M10155-1
TRACE X307(REF)
X302.51(REF)
.18 MIN. (-1 & -5)
Z56.375(REF)
SHIM AS REQD (.062 MAX) SEE NOTE #4
LDW280-10221(REF)
LDW280-10154(REF)
.18 MAX IF REQD
X298(REF)
SECTION M-M
(ON-5 ONLY)
LDW280-28066-9
SECTION R-R
(ON-5 ONLY)
LDW280-28066-9 (REF)
(ON-5 INSTL ONLY)
SPOTFACE .500 DIA, .030 COR. R., TO FLAT ON LDW280-10221 ON-1 INSTL ONLY 2 PLACES
NAS673V21(ON 1)(2)
NAS673V24-24-5...2)
MS2.24-2L3(ON-1 & -5)(2)
AN96-D10L(ON-1 & -5)(4)
DRILL .190-.192, 2 HOLES (ON-1 & -5)
LDW280M10015 (REF)
LDW280-23031(REF)
LDW280-10221 (REF)
SECTION A-A (SHOWN)
B-B (OPP.)
LDW280-10221(REF)
HL10V5-5(2) SEE NOTE 1
HL70-5(2)
LDW280M10152-1
(ON-1 & -5)
X296.297(REF)
LDW280-23031(REF)
6°38' (REF)
Y12.40 (REF)
DETAIL R (SHOWN)
5 (OPP)
DRILL W (.385-.392) THRU LDW280M10015 FROM LDW280-10221 PRIOR TO INSTALLATION OF LDW280M10583 & LDW280M10152
NAS 9-1100


LDW280-28066 -1 INSTL
-3 ASSY
-5 INSTL
-7 ASSY
VIEW LOOKING AFT
SECTION T-T
SECTION L-L (2 PLACES)
SECTION J-J
SECTION D-D
SECTION P-P
SEE NOTE "5
LDW280-28002 (REF)
SEE NOTE "2
DRILL 1/4 (.249 - .255) IN LDW280 28002 ON -1 & -5 LOCATE FROM -3 & -7
LDW280M10139-1 (REF)
POINT "J"
LDW280M2610583-1 (REF)
Z56.050 (REF)
LDW280M10181-1 (ON -3 & -7)
Y5.927 (REF)
LDW280-10401-13 (ON -1 & -5)
LDW280M10135-1 (REF)
LDW280M2139-1 (ON -3 & -7)
LDW280M10135-1 (REF)
LDW280M10136-1 (ON -3 & -7)
X310.422 (REF)
LDW280M10153-2 (ON -1 & -5)
HL10V-5-5(-) SEE NOTE "1
HL70-5(-)
(ON -1 & -5)
SHIM AS REQ'D (.156 MAX) SEE NOTE "4 TYP 4-PLACES
19.840
8.109 (SEE NOTE "2)
9.920
PT'A'
PT'B'
PT'C'
PT'D'
PT'E'
PT'F'
PT'G'
Y9.92 (REF)
LDW280M10179-1 (ON -3 & -7)
LDW280-10401-11 (ON -1 & -5)
LDW280-10401-12 (ON -1 & -5)
LDW280M10583-3 (ON -7)
LDW280M10583-1 (ON -3)
LDW280M10143-1 (ON -3 & -7)
LDW280M10141-1 (ON -3 & -7)
LDW280M10135-1 (REF)
LDW280M10138-1 (ON -3 & -7)
LDW280M10180-1 (ON -3 & -7)
X300.156 (REF)
4.513 ±.005
1.000 ±.005
7/8 DIA SEE NOTE "5
.18 MIN. (-1 & -5)
LDW280-23031 (REF)
HLV10V5-6 (2) SEE NOTE "1
HL70-5 (2)
(ON -1 & -5)
X297.26 (REF)
HLV10V5-2 (2) SEE NOTE "1
HL70-5 (2)
(ON -1 & -5)
LDW280-10237 (REF)
LDW280M10015 (REF)
LDW280-10633-11 (ON -1 & -5)
Y11.688 (REF)
NAS 673V5 (2)
MS 21042L3 (2)
AN960 D10L (2)
DRILL .190 - .192 DIA 2 HOLES SEE SECT MM FOR DEPTH (ON -1 & -5)
AN 960 D10 (2)
(CHAMFER WASHER AS REQ'D TO CLEAR RAD. ON LDW280M10583)
SHIM AS REQ'D (.156 MAX) SEE NOTE "4
.060 MIN CLEARANCE
LDW280-10154 (REF)
LDW280M10139-1 (ON -3 & -7)
HL18-5-5 (2) SEE NOTE 1
HL70-5 (2)
659013-3 (2)
GW10G-2 (2)
(ON -1 & -5)
LDW280M10152-2 (ON -1 & -5)
.060 MIN CLEARANCE
SHAVE RIVETS TO .040 MIN. REMAINING HEAD HEIGHT IF REQ'D
Y12.40 (REF)
HL18-5-5(-) SEE NOTE 1
HL70-5 (2)
659013-9 (2)
GW10G-2 (2)
(ON -1 & -5)
LDW280M10138-1 (REF)
Y6.428 (REF)
Y1.400 (REF)
X302.313 (REF)
X298.1 (REF)
Z56.656 (REF) (SEE NOTE 6)
LDW280M10134 (REF)
LDW280M10
Z55.250 (REF)
LDW280M10583-1 (REF)
SEE NOTE "5
Z55.250 (REF)
LDW280M10179-1 (REF)
SEE NOTE "5
LDW280
X31.250 (REF)
SEE NOTE "5
LDW280M10583-1 (REF)
HLHV3-4(3) SEE NOTE "1
HL70-5 (3)
C5K LDW280M10152 (3)
(ON -1 & -5)
LDW280M10636-1
AN960D10
MS21042L3
(ON -1 & -5)
SEE DETAIL S
LDW280-10221 (REF)
.125 R
SEE
LDW280M10583-1 (REF)
LDW280M10152-1 (REF)
LDW280M10015 (REF)
2 / 3
NAS 9-1100



NOTES:

1. FOR HL10V5, HL11V5 AND HL18-5 FINAL HOLE SIZE TO BE .191 +.001 -.000
2. ALIGNMENT TOLERANCES FOR INSTALLATION OF FASHIONS POINTS "D" "E" "F" ARE EQUIDISTANT FROM PLANE ABC WITHIN .012 BUSHING SURFACES AT POINTS "D" "E" "F" TO BE PARALLEL WITH PLANE DEF WITHIN .002 TIR. POINTS "D" "E" "F" ARE EQUIDISTANT FROM LINE AB WITHIN .0005 BUSHING SURFACE AT POINTS "H" "G" TO BE PARALLEL WITH PLANE ABC WITHIN .010 TIR
3. PUT BUSHINGS AT POINTS "D" "E" "F" "G" "H" USING NAV BASE POTTING FIXTURE (LTM280-26-49-1-007) WITH PLASTIC SHIM EPON 934 TYPE II CLASS B PER LSP14-47 ON JOINT EXPOSED SURFACES OF SHIM WITH RTV-44 OR SILICONE PER LSP14-22601 OVERLAPPING .125 MIN ON ADJACENT METAL SURFACES. SEE NOTE 2 FOR ALIGNMENT TOLERANCES. LDW280M10136 LDW280M10141 LDW280M10142, LDW280M10144, AND LDW280M10145 ARE NOT INTERCHANGEABLE AFTER THIS POTTING OPERATION.
4. INSTALLATION SEQUENCE FOR FRAME ASSEMBLY AND SUPPORT FITTINGS. WITH FRAME NESTED BETWEEN FLANGES OF LDW280M10583 CHANNEL RAISE FRAME APPROX 1/8" ABOVE CABIN SKIN, THEN PUT BRACKETS BETWEEN FLANGES OF CHANNEL & LOWER FRAME. BALT TRUSSES AND BRACKETS TO FRAME. INSERT PLASTIC SHIM UNDER TRUSSES FRAME AT BOTTOM CENTER AND AROUND BRACKETS. USE A PARTING AGENT BETWEEN SHIM AND TRUSSES, AND SHIM AND FRAME & SHIM AND BRACKET. WITH ALIGNMENT GAGE (LTM280-26-39-1-OTA) BOLTED TO FRAME, ADJUST THE AS-BENEVOLENT TO BASIC VEHICLE AXES WITHIN .012" AS ESTABLISHED THRU FORWARD INTERSTAGE FEE AND ALLOW SHIMS TO HARDEN. DRILL HOLES FOR HI-LOKS IN TRUSSES AND AT FRAME BOTTOM CENTER. REMOVE BOLTS, RAISE LOWER FRAME POINTS ALTERNATELY, DRILL HOLES AND INSTALL HI-LOKS THRU BRACKETS. INSERT BOLTS THRU BRACKETS & FRAME USING PLASTIC SHIM TO FILL GAPS BETWEEN THE PARTS WITH A PARTING AGENT TO INSULATE SHIM FROM METAL. INSTALL HI-LOKS THRU TRUSSES AND FRAME AT BOTTOM CENTER. SEE NOTE 3 FOR SHIM COMPOSITION AND TREATMENT OF EXPOSED SURFACES.
5. APPLY PLASTIC SHIM BETWEEN [illegible] AND LDW280 [illegible] AREA SHOWN TO BE TO FINAL PLANE - D - DIMENSION 10553 SEE NOTE 3 FOR SHIM COMPOSITION AND TREATMENT OF EXPOSED SURFACE
6. FOR AN515C6 FINAL HOLE SIZE TO BE .139-.145

MANUFACTURING OPERATIONS

UNLESS OTHERWISE SPECIFIED VALUES ENCLOSED IN APPLY TO FINISHED PART

ALL EDGES MUST BE FREE FROM BURRS AND SHARP CORNERS

FILLET AND RADII

DEPTH SHOWN FOR TAPPED HOLES IS FULL (MIN) 3-3 UNF THREADS

EXTERNAL TABLES LENGTH DIMENSIONS INCLUDES 2 UNPERFECT THREADS MAX.

DO NOT CADMIUM PLATE & PAINT HOLES OR BUSHINGS MARKED WITH DOUBLE ASTERISK

RADIATION STEP OF A JOB PERMISSIBLE DUE TO CHANGE OF CUTTERS AT TRUSS INTERSECTING SURFACES.

DIAMETERS MARKED MUST BE CONCENTRIC W/ THE AXIS INDICATED

REAMING

HOLES MUST BE NEAT FREE OF CUTTING FLUID SOLUTION

ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING. THICKNESS OF PLATE .XX MIN. TO .XXX MAX. DRAW THRU HOLES TO BE .XXX OR THINNER MAX. NO ALLOWANCE FOR PLATING IN HOLES

SURFACE ROUGHNESS

125 FOR ALL DRILLED HOLES

BREAK ALL EDGES BREAK ALL EDGES .005-.031

INSTALLATION INSTRUCTIONS

DRIVING & DENOTED SURFACES TO BE MACHINED

BOLTED OTHERWISE SPECIFIED TOLERANCE ON FLANGES ±1/32

LOCATION OF AIR, BALL & NUT ASSY'S, ROUTER SPAN 1 PLACE ARE NOT SPECIFIED

THE HOLES ON CAPTED ROLLER ARE

ABBREVIATIONS

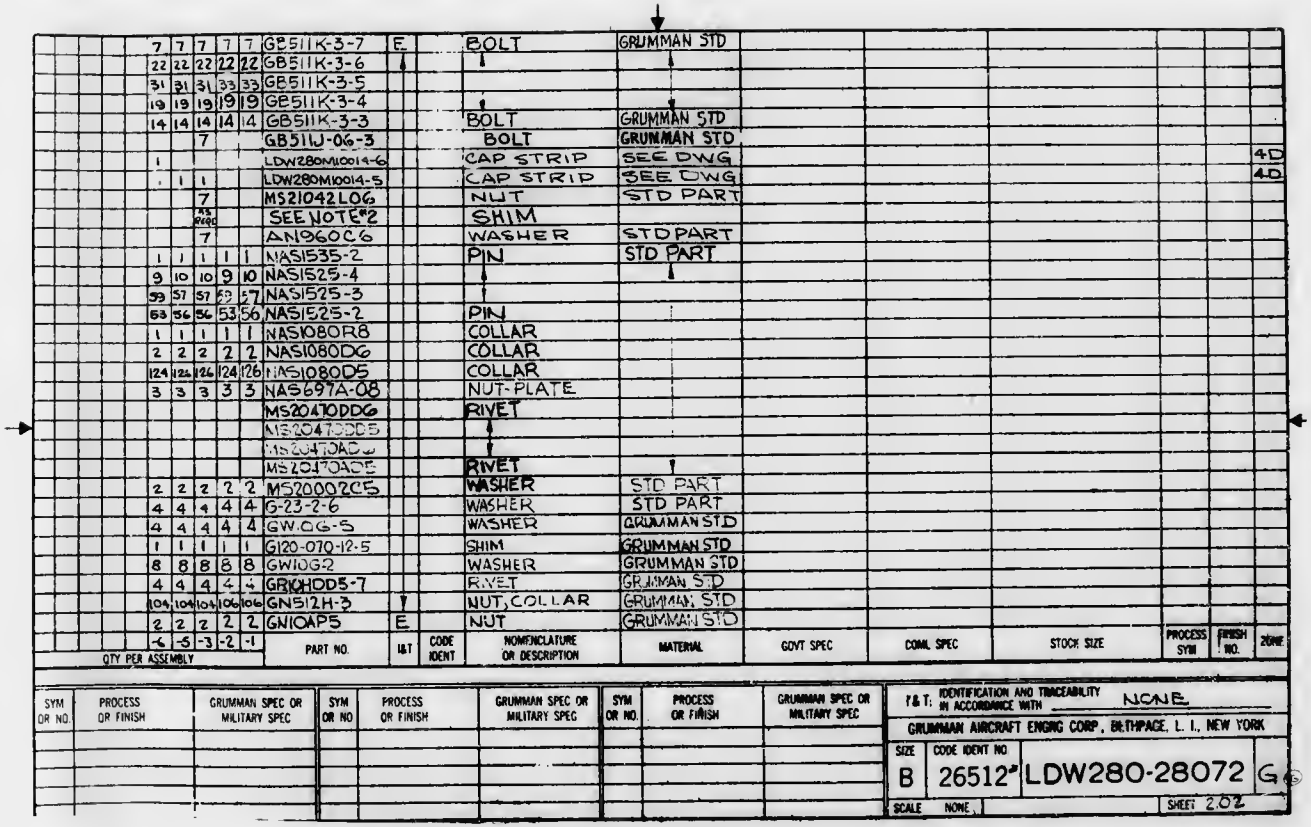
LOW DISTANCE	
4	HI-LOK FASTENER
DIA	ROM FASTENER P.N.
ROM	

D-273

03/03

NAS 9-1100

CANADAIR LIMITED, ENGINEERING CORP., MONTREAL		
J	26512	LDW280-28066 C
		SHT 3 OF 20



QTY PER ASSEMBLY					PART NO.	I&T	CODE IDENT	NOMENCLATURE OR DESCRIPTION	MATERIAL	GOVT SPEC	COML SPEC	STOCK SIZE	PROCESS SYM	FINISH NO.	ZONE
7	7	7	7	7	GB511K-3-7	E		BOLT	GRUMMAN STD						
22	22	22	22	22	GB511K-3-6										
31	31	31	33	33	GB511K-3-5										
19	19	19	19	19	GB511K-3-4										
14	14	14	14	14	GB511K-3-3			BOLT	GRUMMAN STD						
		7			GB511J-06-3			BOLT	GRUMMAN STD						
1					LDW280M10014-6			CAP STRIP	SEE DWG						4D
1	1	1			LDW280M10014-5			CAP STRIP	SEE DWG						4D
		7			MS21042L06			NUT	STD PART						
		AS REQD			SEE NOTE #2			SHIM							
		7			AN960C6			WASHER	STD PART						
1	1	1	1	1	NAS1535-2			PIN	STD PART						
9	10	10	9	10	NAS1525-4										
53	57	57	53	57	NAS1525-3										
53	56	56	53	56	NAS1525-2			PIN							
1	1	1	1	1	NAS1080R8			COLLAR							
2	2	2	2	2	NAS1080D6			COLLAR							
124	124	126	124	126	NAS1080D5			COLLAR							
3	3	3	3	3	NAS697A-08			NUT-PLATE							
					MS20470DD6			RIVET							
					MS20470DD5										
					MS20470AD4										
					MS20470AD5			RIVET							
2	2	2	2	2	MS20002C5			WASHER	STD PART						
4	4	4	4	4	G-23-2-6			WASHER	STD PART						
4	4	4	4	4	GW.OG-5			WASHER	GRUMMAN STD						
1	1	1	1	1	G120-070-12-5			SHIM	GRUMMAN STD						
8	8	8	8	8	GW10G-2			WASHER	GRUMMAN STD						
4	4	4	4	4	GR10HDD5-7			RIVET	GRUMMAN STD						
104	104	104	106	106	GN512H-3			NUT, COLLAR	GRUMMAN STD						
2	2	2	2	2	GN10AP5	E		NUT	GRUMMAN STD						
-6	-5	-3	-2	-1											

SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC

T & T: IDENTIFICATION AND TRACEABILITY IN ACCORDANCE WITH NONE

GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L. I., NEW YORK

SIZE	CODE IDENT NO.		
B	26512	LDW280-28072	G

SCALE NONE SHEET 202

01

NAS 9-1100

QTY PER ASSEMBLY	CODE IDENT	PART NO.	I&T	NOMENCLATURE OR DESCRIPTION	MATERIAL	GOVT SPEC	COML SPEC	STOCK SIZE	PROCESS SYM	FINISH NO.	ZONE
10		GN512H-3	E	COLLAR	GRUMMAN STD						
4		GB511K-3-4		BOLT	GRUMMAN STD						
6		GB511K-3-3		BOLT	GRUMMAN STD						
		MS20470DD6		RIVET	STD PART						
8		MS20470AD5			STD PART						
2		GR500A-6G			GRUMMAN STD						
4		GR500A-6F									
32		GR500A-6D		RIVET							
2		G120-070-6-13		SHIM							
4		G120-094-6-13		SHIM	GRUMMAN STD						
2		LDW280-10488-13		PLATE	SEE DWG						
1		LDW280M10296-1		FITTING	SEE DWG						8B
1		LDW280-10322-20		ZEE							6B
1		-19		ZEE							5B
1		-18		ANGLE							6B
1		-17									5B
1		-16									7B
1		-15									4B
1		-14									7B
1		-13		ANGLE							4B
1		LDW280-10322-11		CAP							4A
1		LDW280-10321-11		WEB	SEE DWG						5B
		LDW280-28078-1	E	BEAM INSTALLATION					NONE	NONE	

SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC

I & T: IDENTIFICATION AND TRACEABILITY IN ACCORDANCE WITH : NONE

GRUMMAN AIRCRAFT ENGRG CORP, BETHPAGE, L. I., NEW YORK

SIZE	CODE IDENT NO.		
B	26512	LDW280-28078	B

SCALE NONE SHEET 2.00

DWG 77.2 7-65

01

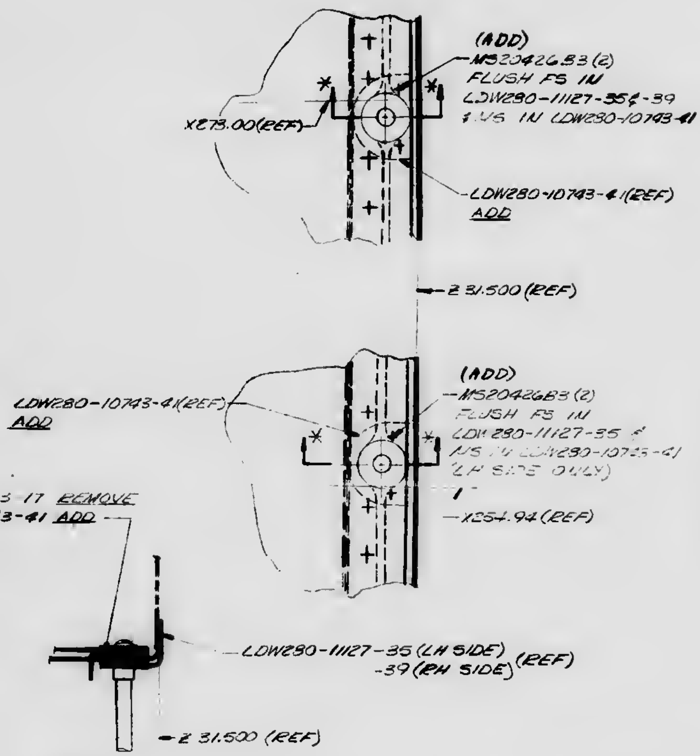
NAS 9-1100

B

GRUMMAN AIRCRAFT ENGINEERING CORP.
CODE IDENT NO. 26512
ENGINEERING ORDER

DWG. NO. LDW280-28096 | EO NO. D2
CONTROL INFO NO. LM-5-

REVISE F/D & BM AS FOLLOWS:



(ADD)
SECTION *-* (TYP 2 PLACES)
(IDENT TO SECT. B-B & H-H
EXCEPT AS SHN)

RELEASED BY LIAISON

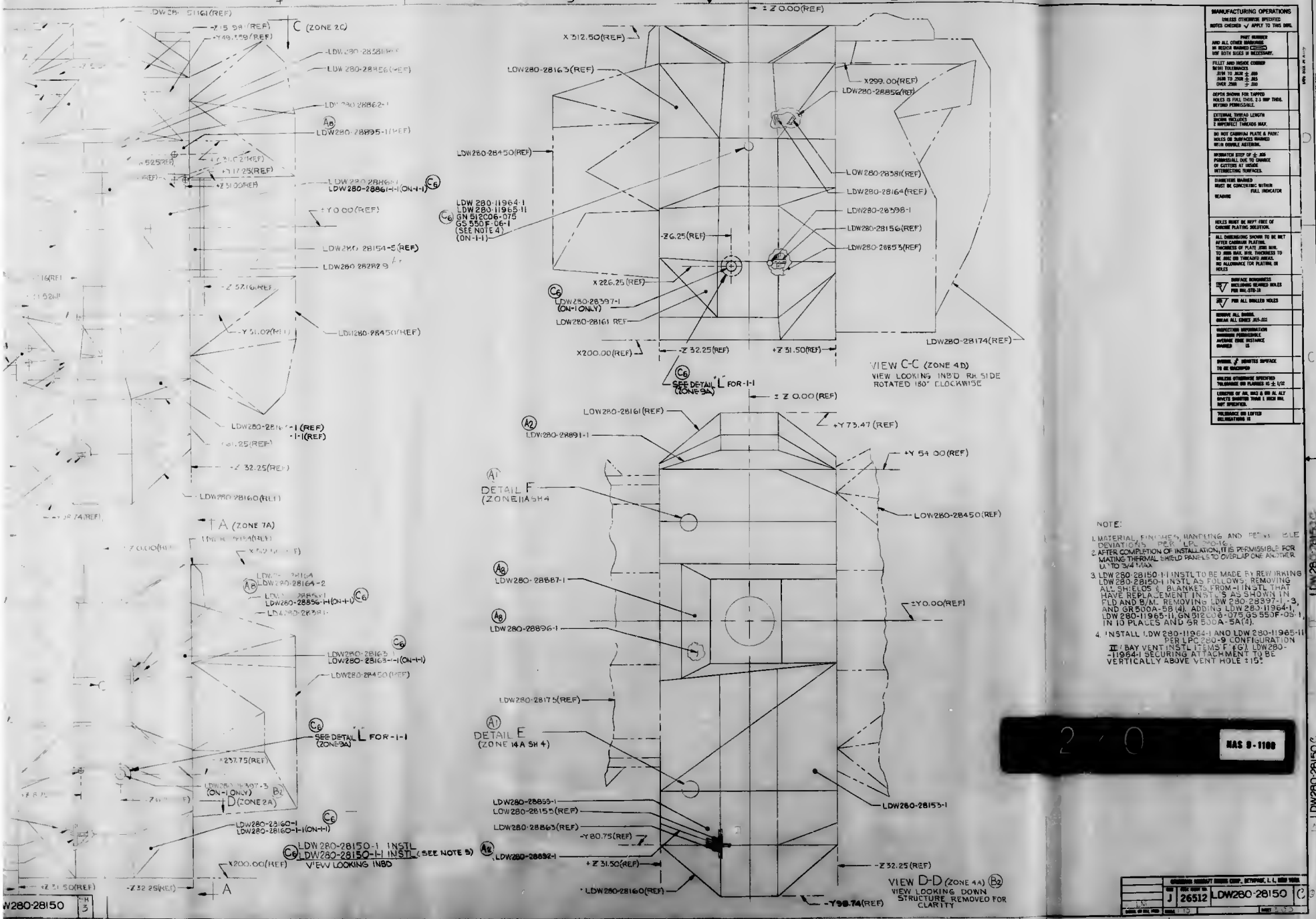
- NEXT AVAILABLE LETTER

REASON FOR EO	DESCRIPTION OF EO
TO PROVIDE PROPER EDGE DISTANCE FOR STANDOFF	ADDED LDW280-10743-41 (2) FOR-1 & (1) FOR-2 ADDED MS20426B3 (4) FOR-1 & (2) FOR-2 REMOVED LDW280-10743-17 (3) FOR-1, ADDED SECT *-*

MODEL	EFFECTIVITY		
LM		LM-1 (31)	
		LM-2 (32)	

DRAWING TITLE: SHIELD INSTL - N/S CABIN - X 252.00 BUBBLE - THERMAL
DRAWING NO. LDW280-28096 | EO NO. D2
PRIORITY: C

ISSUED BY ______ 6510 ______ 26-67 SECTION ______ GROUP NO. ______ PL ______



MANUFACTURING OPERATIONS
UNLESS OTHERWISE SPECIFIED NOTES CHECKED √ APPLY TO THIS DWG.

PART NUMBER AND ALL OTHER MARKINGS IN INDICA INKED ☐ MAY BOTH SIDES IF NECESSARY.

FILLET AND INSIDE CORNER RADII TOLERANCES
.XXX TO .XXX ± .XXX
.XXX TO .XXX ± .XXX
OVER .XXX ± .XXX

DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS. 2-3 MIN THDS. BEYOND PERMISSIBLE.

EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 IMPERFECT THREADS MAX.

DO NOT CADMIUM PLATE & PAINT HOLES OR SURFACES MARKED WITH DOUBLE ASTERISK.

INDICATED STEP OF ± .005 PERMISSIBLE DUE TO CHANGE OF CUTTERS AT INSIDE INTERSECTING SURFACES.

DIAMETERS MARKED ☐ MUST BE CONCENTRIC WITHIN .XXX FULL INDICATOR READING

HOLES MUST BE KEPT FREE OF CHROME PLATING SOLUTION.

ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING. THICKNESS OF PLATE .0005 MIN. TO .0015 MAX. MIN. THICKNESS TO BE .0002 ON THREADED AREAS. NO ALLOWANCE FOR PLATING IN HOLES

SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL-STD-18

√ FOR ALL DRILLED HOLES

REMOVE ALL BURRS. BREAK ALL EDGES .015-.031

INSPECTION INFORMATION SHOWN POSSIBLE AVERAGE EDGE DISTANCE MARKED IS

DATUM ✓ DENOTES SURFACE TO BE MACHINED

UNLESS OTHERWISE SPECIFIED TOLERANCE ON FLANGES IS ± 1/32

LENGTHS OF .XX, .XXX & .XXX AL ALLOY SHEETS SHORTER THAN 1 INCH MIN. NOT SPECIFIED.

TOLERANCE ON LOFTED DELINEATIONS IS

NOTE:

1. MATERIAL, FINISHES, HANDLING AND PERMISSIBLE DEVIATIONS PER LPC 280-16.
2. AFTER COMPLETION OF INSTALLATION, IT IS PERMISSIBLE FOR MATING THERMAL SHIELD PANELS TO OVERLAP ONE ANOTHER UP TO 3/4" MAX.
3. LDW 280-28150-1-1 INSTL TO BE MADE BY REWORKING LDW280-28150-1 INSTL AS FOLLOWS; REMOVING ALL SHIELDS & BLANKETS FROM -1 INSTL THAT HAVE REPLACEMENT INSTL'S AS SHOWN IN FLD AND S/M. REMOVING LDW 280-28397-1, -3, AND GR500A-58 (4). ADDING LDW 280-11964-1, LDW 280-11965-11, GN 512C06-075, GS 550F-06-1, IN 10 PLACES AND GR 500A-5A(4).
4. INSTALL LDW 280-11964-1 AND LDW 280-11965-11 PER LPC 280-9 CONFIGURATION II (BAY VENT INSTL ITEMS F & G) LDW280--11964-1 SECURING ATTACHMENT TO BE VERTICALLY ABOVE VENT HOLE ± 15°.

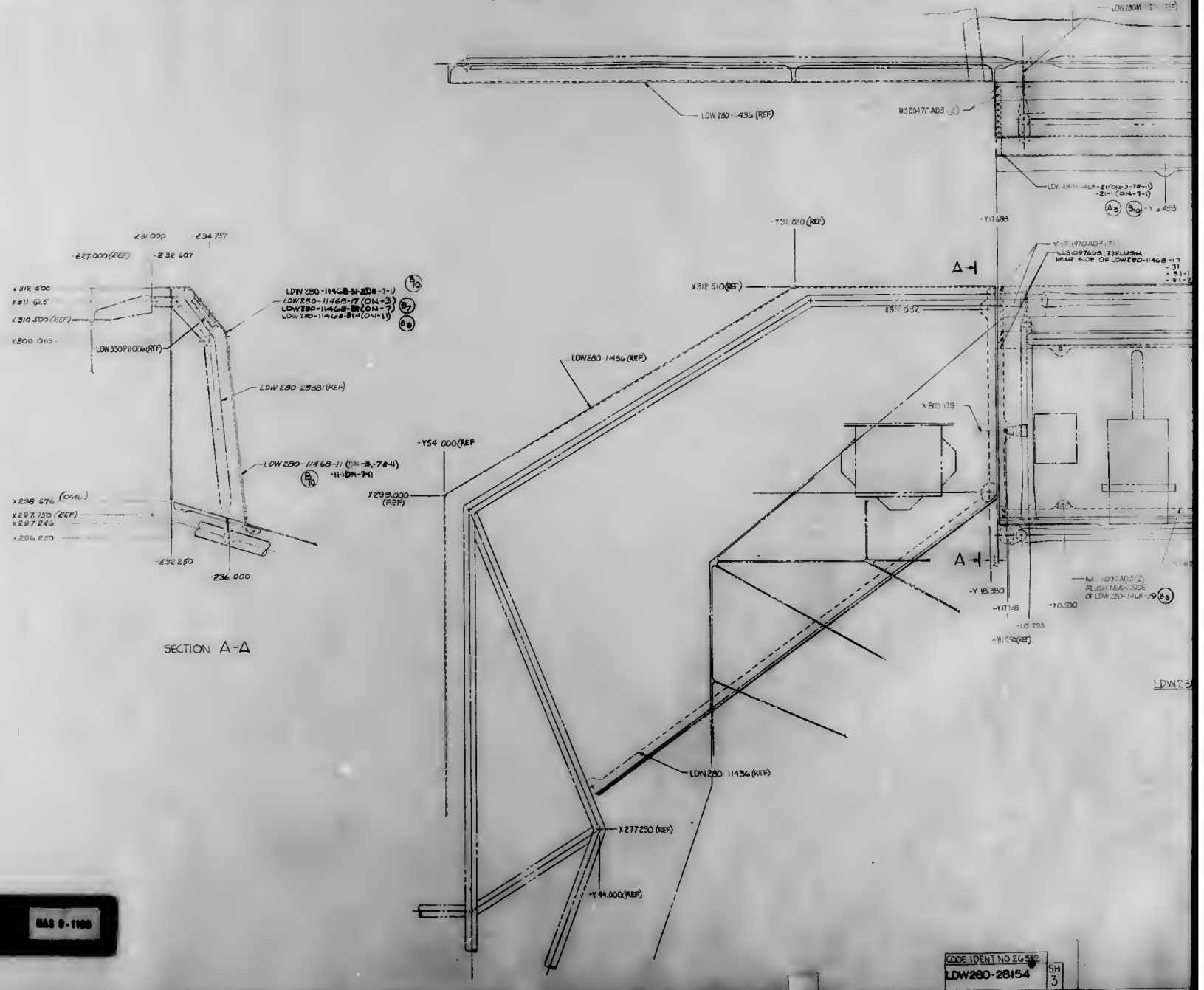
2 - 0

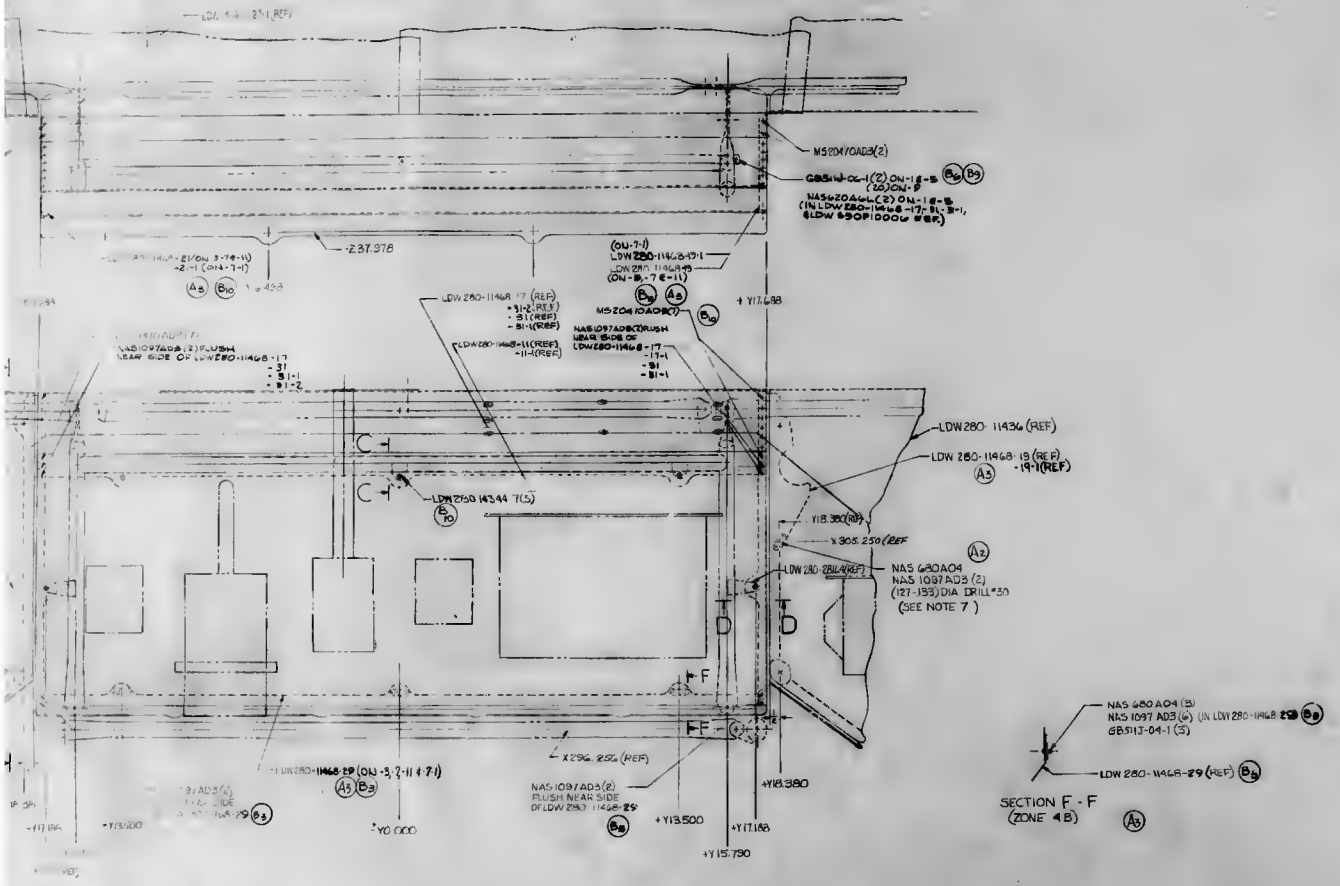
NAS 9-1100

SIZE J	CAGE CODE NO. 26512	LDW280-28150	REV C
SCALE 1/5	WEIGHT	SHEET 2 OF 3	

LDW280-28150 SH 3

LDW280-28150C


LDW280-11436 (REF)
MS21047C4D3 (2)
-Y31.020 (REF)
-Y17.688
X312.510 (REF)
X311.652
A-1
LDW280-11436 (REF)
X313.179
-Y54.000 (REF)
X298.000 (REF)
-Y18.380
-Y17.148
-Y13.500
-Y11.250 (REF)
X277.250 (REF)
-Y44.000 (REF)
LDW280-11436 (REF)
231.000
234.757
227.000 (REF)
232.607
X312.500
X311.625
X310.500 (REF)
X309.063
LDW350P11006 (REF)
LDW280-11468-31-2(ON-7-1)
LDW280-11468-17 (ON-3)
LDW280-11468-31-1(ON-7)
LDW280-11468-31-4(ON-11)
LDW E80-28381 (REF)
LDW280-11468-11 (ON-3,-7&-11)
-11-1(ON-7-1)
X298.676 (OVAL)
X297.750 (REF)
X297.246
X296.250
232.250
236.000
SECTION A-A
CODE IDENT NO 2G539
LDW280-28154
SH 3



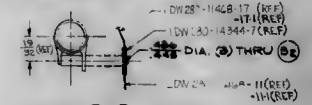
LDW280-28154-1 INSTL

(B8)
- -5-1 INSTL
- -7-1 ASSY
- -9 ASSY

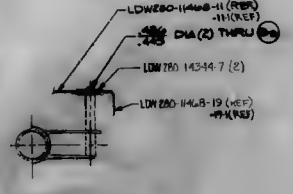
} MODIFIED (SEE NOTE 14)

- -5 INSTL (IDENTICAL TO -1 EXCEPT AS NOTED) (B7)
- -7 ASSY (IDENTICAL TO -5 EXCEPT AS NOTED) (B8)
- -9 INSTL (IDENTICAL TO -5 EXCEPT AS NOTED) (B8)
- -11 ASSY (IDENTICAL TO -7 EXCEPT AS NOTED) (B8)

(VIEW LOOKING FWD)



SECTION C-C (SEE NOTE 8) (ZONE 4B) (A5) (FULL SCALE)



SECTION D-D (ZONE 4B) (SEE NOTE 8) (A5) (FULL SCALE)

NOTES:

1. BOND ALL TO STRUCTURE IN ACCORDANCE WITH MSP 14 22500, CURE RANGE 1.
2. INSTALL LDW 280-11468-1 WITH ALUMALYTE SURFACE AS THE EXTERIOR. REMOVE STRIPPABLE VINYL COATING 766 FROM TAPED SURFACE.
3. EXTERIOR SURFACE TO BE PIT FREE TO INSURE SATS FACTORY FINAL FINISH.
4. ALL RIVETS TO BE SQUEEZED.
5. NO TOOLING HOLES PERMITTED IN PARTS.
6. ALL INFORMATION NOT APPLICABLE TO LDW 280-28154 SHALL BE CONSIDERED REFERENCE INFORMATION.
7. COORDINATE WITH LDW 280-28852-1, LDW 280-51852.
8. COORDINATE LDW280-28154 WITH LDW280-28-1
9. MATERIAL, FINISHES, HANDLING AND PERMISSIBLE DEVIATIONS PER LPC-280-16.
10. DURING -5 OR -5-1 INSTL (OR ASSY) OF THERMAL SHIELD SUB-ASSYS OR DETAILS FOR LTA-8 ONLY), PARTS MAY BE TRIMMED OR SHIMMED AS NOTED TO INSURE PROPER FIT TO MATING PART OR ADJACENT STRUCTURE:
   A. MAX. PERMISSIBLE TRIM TO BE 1/16", PROVIDING A MIN. FASTENER EDGE DISTANCE IS HELD AFTER TRIMMING (1½ FASTNER DIA.)
   B. MAX. PERMISSIBLE SHIM TO BE .065 THICK AND IF TAPERED, NOT TO EXCEED 5 INCHES IN LENGTH. SHIM STOCK TO BE 2024-T3 ALCLAD QQ-A-250/4 FINISH 7G, WIDTH AS REQ'D.
11. WHERE NECESSARY ON THERMAL SHIELD SUB-STRUCTURE IT IS PERMISSIBLE TO FLUSH RIVETS TO INSURE PROPER FIT OF MATING PARTS, PROVIDING MATERIAL TO BE CSK IS THICK ENOUGH TO PREVENT FEATHER EDGED HOLES. (NAS1097 OR MS20426 RIVETS MAY BE USED.)
12. WHERE NECESSARY DUE TO REDESIGN AND REWORK, THE NEXT LARGER SIZE FASTENER MAY BE USED IN LIEU OF EXISTING FASTENER, PROVIDING A MINIMUM EDGE DISTANCE OF 1½ FASTENER DIA IS MAINTAINED. ALSO, EXTRANEOUS HOLES MAY BE PLUGGED AS REQ'D (NAS1097 OR MS 20470 RIVETS PERMISSIBLE) AS LONG AS A MINIMUM SPACING OF 3 DIAMETERS EXISTS BETWEEN PLUG AND NEAREST FASTENER. (A 1 INCH SQUARE OF GT85548 TAPE MAY BE USED FOR HOLES UP TO 7/16 IN DIA IN THERMAL SKIN.)
13. WHERE NECESSARY, THE FOLLOWING NUT PLATES MAY BE REPLACEMENTS FOR ONE ANOTHER WITHIN THE GROUPS NOTED BELOW, PROVIDING THERE IS NO CHANGE IN DIAMETER OF SCREW:

GROUP A: NAS680 NAS 680, NAS684, NAS686 NAS 687, NAS 696, NAS 697 NAS 698 NAS 1067 AND MS 1068

GROUP B: NAS681, NAS683 AND NAS685

IF THE INTERCHANGEABLE ANCHOR NUTS ARE USED, THERMAL SKINS OR SUB-STRUCTURE MAY BE DIMPLED OR CSK AS REQ'D. (SEE NOTE 11 ABOVE.)

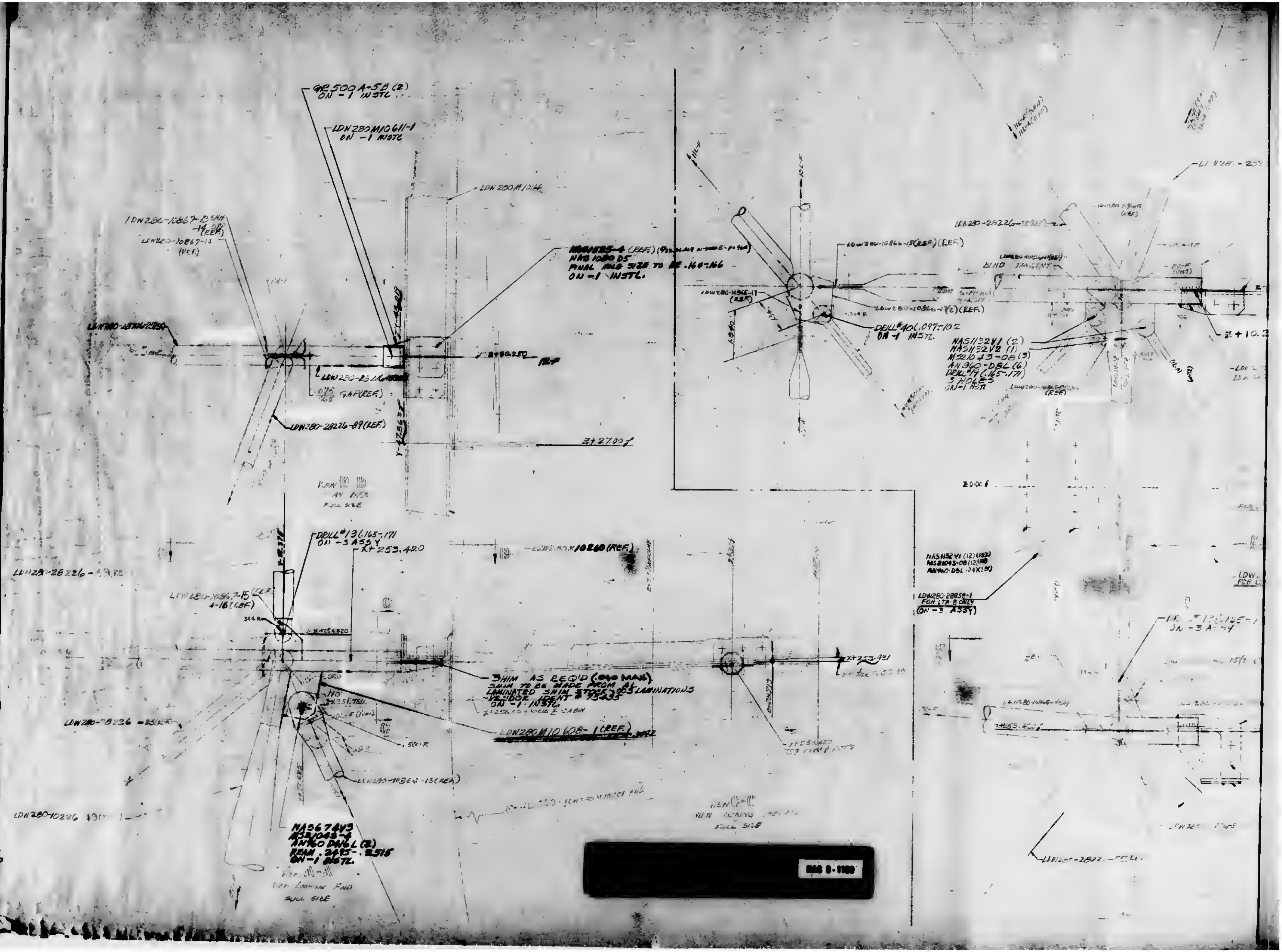
14. -5-1 SHALL BE MADE FROM -5 BY REWORKING AS FOLLOWS:
    REMOVE & SCRAP:
    LDW280-11468-1
    -19
    -21
    -29
    LDW280-11468-31
    ADD: LDW280-28154-7-1 ASSY

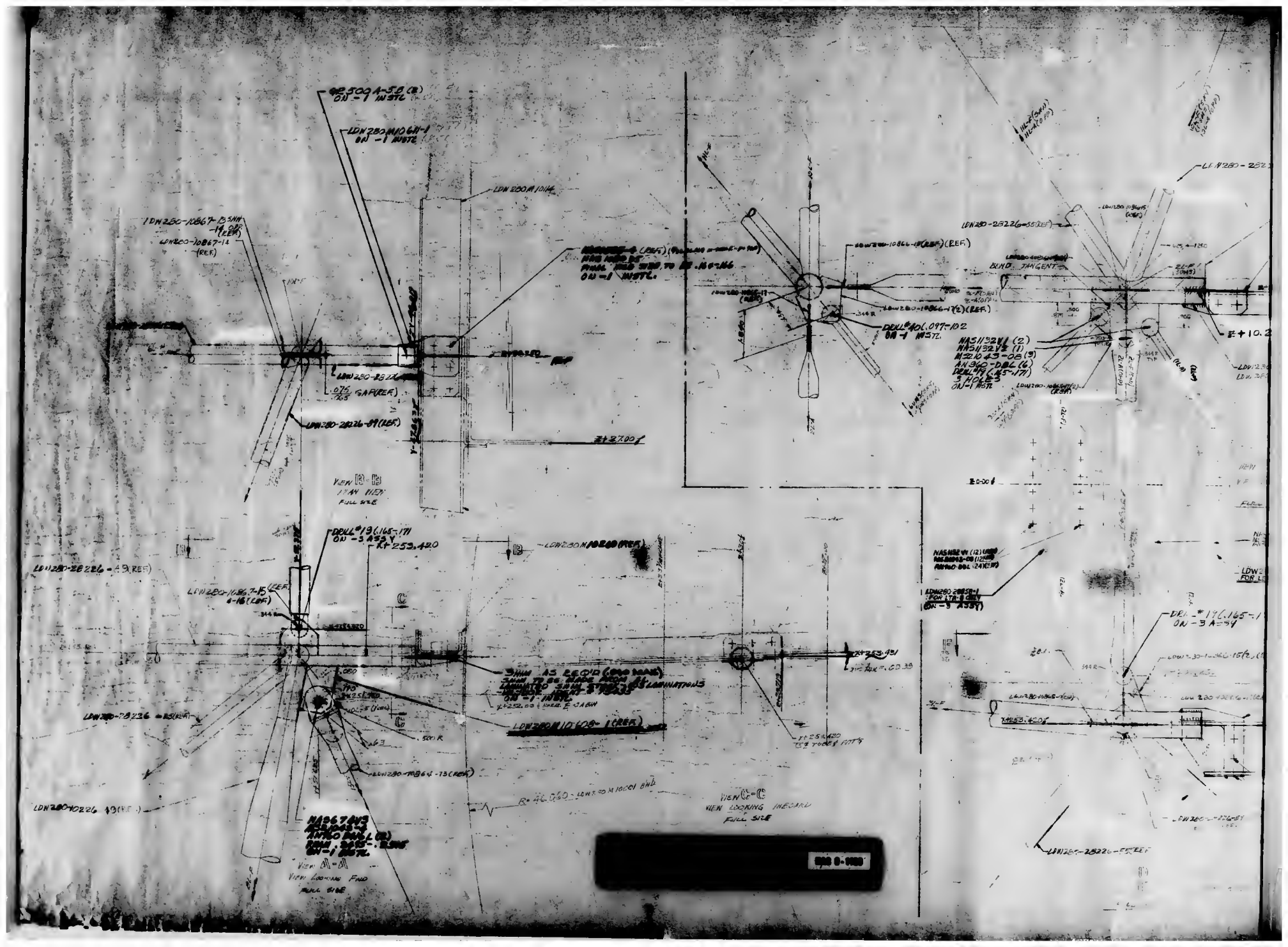
MAS B-1500

J	26512	LDW280-28154	B

SUPERSEDES LDW280 28154 REV L-7-1

LDW 280 28154 B


GP 500 A-5B (2) ON -1 INSTL
LDW280M10611-1 ON -1 INSTL
LDW280M10144
LDW280-10867-13SHH -14 OPP (REF)
LDW280-10867-13 (REF)
NAS1525-4 (REF.)
NAS1080D5
FINAL HOLE SIZE TO BE .164-.166
ON -1 INSTL.
LDW280-28226
.075 GAP (REF.)
LDW280-28226-89 (REF.)
Z+27.00
VIEW B-B
FULL SIZE
LDW280-10866-15 (REF.) (REF.)
LDW280-10866-17 (2) (REF.)
DRILL #40 (.097-.102 ON -1 INSTL.
LDW280-28226
BLND TANGENT
NAS1132V1 (2)
NAS1132V2 (1)
MS21043-08 (3)
AN960-DBL (6)
DRILL #19 (.165-.171)
3 HOLES
ON -1 INSTL
DRILL #13 (.165-.171
ON -3 ASSY
X+253.420
LDW280M10260 (REF.)
LDW280-28226
LDW280-10867-15 -16 (REF.)
NAS1132V1 (12) (REF)
MS21043-08 (12)
AN960-DBL
LDW280-28858-1
FOR LTA-8 ONLY
(ON -3 ASSY)
SHIM AS REQ'D
SHIM TO BE MADE FROM AL
LAMINATED SHIM STOCK .003 LAMINATIONS
VENDOR IDENT # 73235
ON -1 INSTL
X+253.431
LDW280-28226-25 (REF)
LDW280M10608- (REF.)
LDW280-10566-13 (REF.)
LDW280-10226
NAS674V3
MS21043-4
AN960 DBL (2)
REAM .2495-.2515
ON -1 INSTL.
VIEW A-A
VIEW LOOKING FWD
FULL SIZE
VIEW C-C
FULL SIZE
X+253.420
Z+10.
Z0.00
MAS 0-1100


VIEW B-B
VIEW LOOKING INBOARD
FULL SIZE
VIEW C-C
VIEW LOOKING INBOARD
FULL SIZE
VIEW A-A
VIEW LOOKING FWD
FULL SIZE
BEND TANGENT
DRILL #40(.097-.102
ON -1 INSTL.
DRILL #19(.165-.171
ON -3 ASSY
DRILL #17(.165-.171
ON -3 ASSY
3 HOLES
ON -1 INSTL.
NAS1132V4 (2)
NAS1132V5 (1)
NAS1149-08 (9)
AN960-D8L (6)
LDW280-10866-17 (REF.)
LDW280-10867-13 (REF.)
LDW280-10867-14 (REF.)
LDW280-28226-49 (REF.)
LDW280-28226-85 (REF.)
LDW280-28226-89 (REF.)
LDW280-28226-55 (REF.)
LDW280-10864-13 (REF.)
LDW280M10108-1 (REF.)
LDW280M10108 (REF.)
LDW280M10109-1
ON -1 INSTL.
LDW280M10114
.076/.103 GAP (REF.)
.500 R
.344 R
.063
.080
.090
.500
.750
.875
.969
.344
.500
.656
.812
.969
.125
.250
.375
.500
.625
.750
.875
1.000
1.250
1.500
1.750
2.000
2.250
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7.500
7.750
8.000
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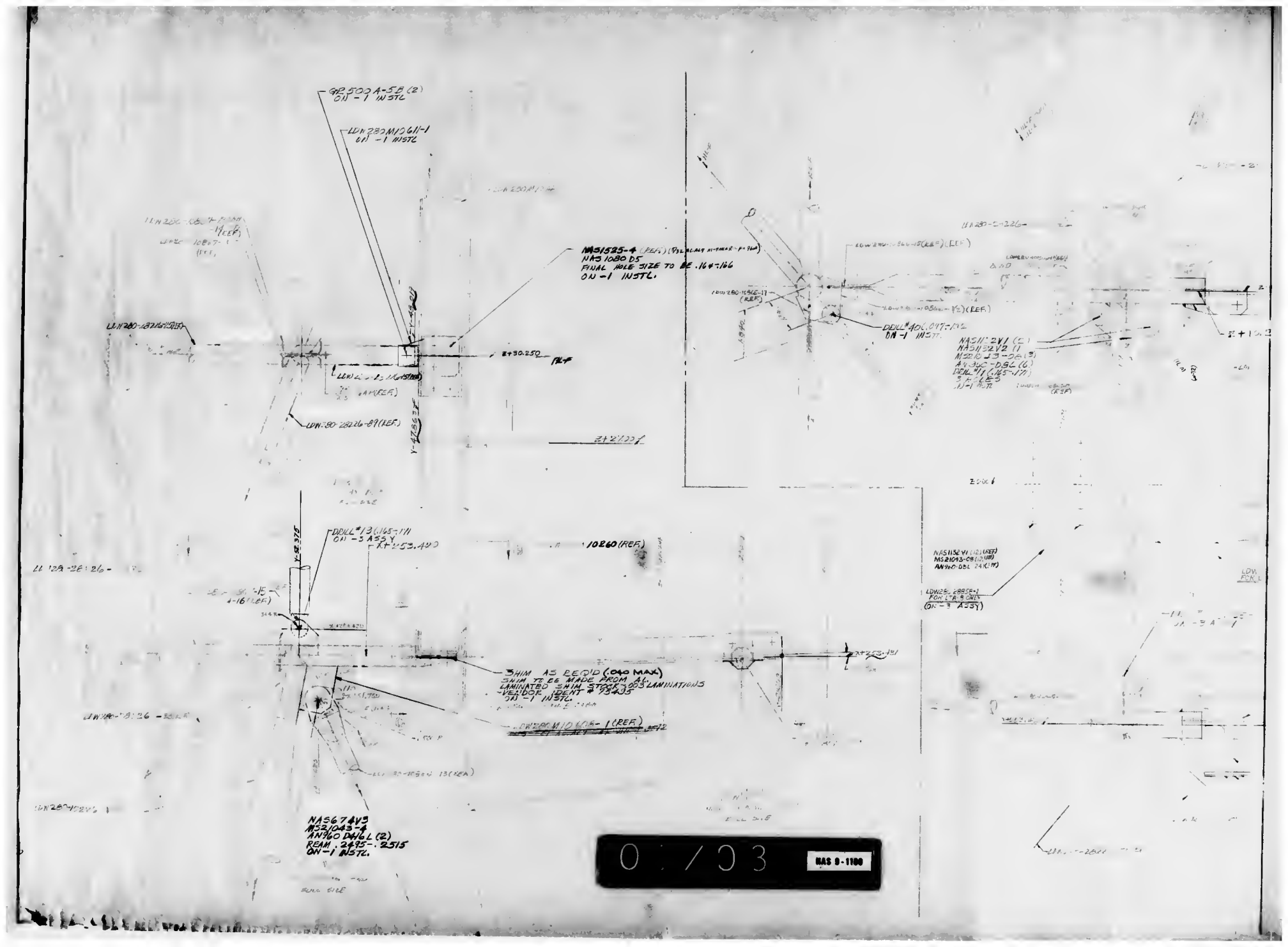
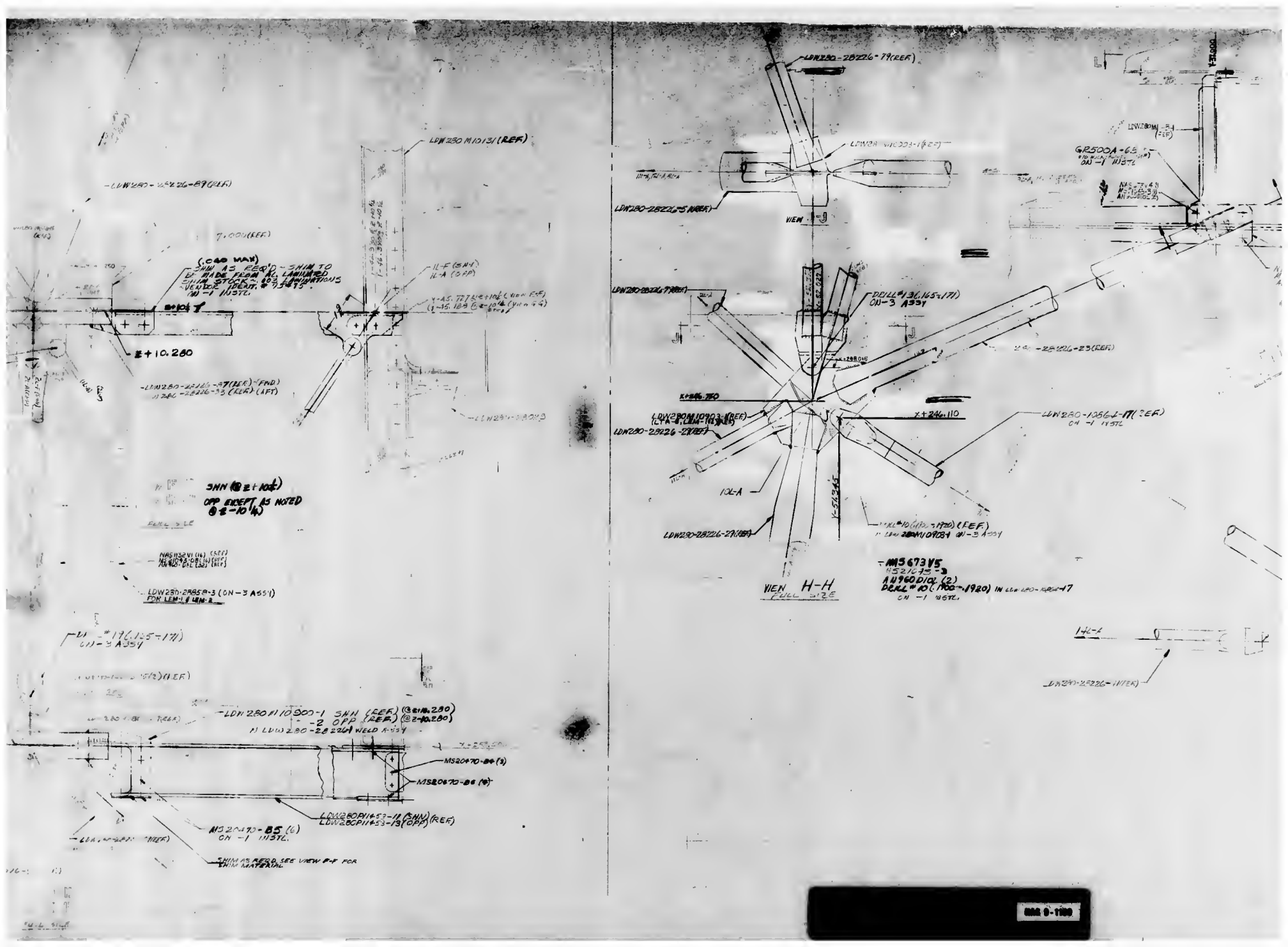
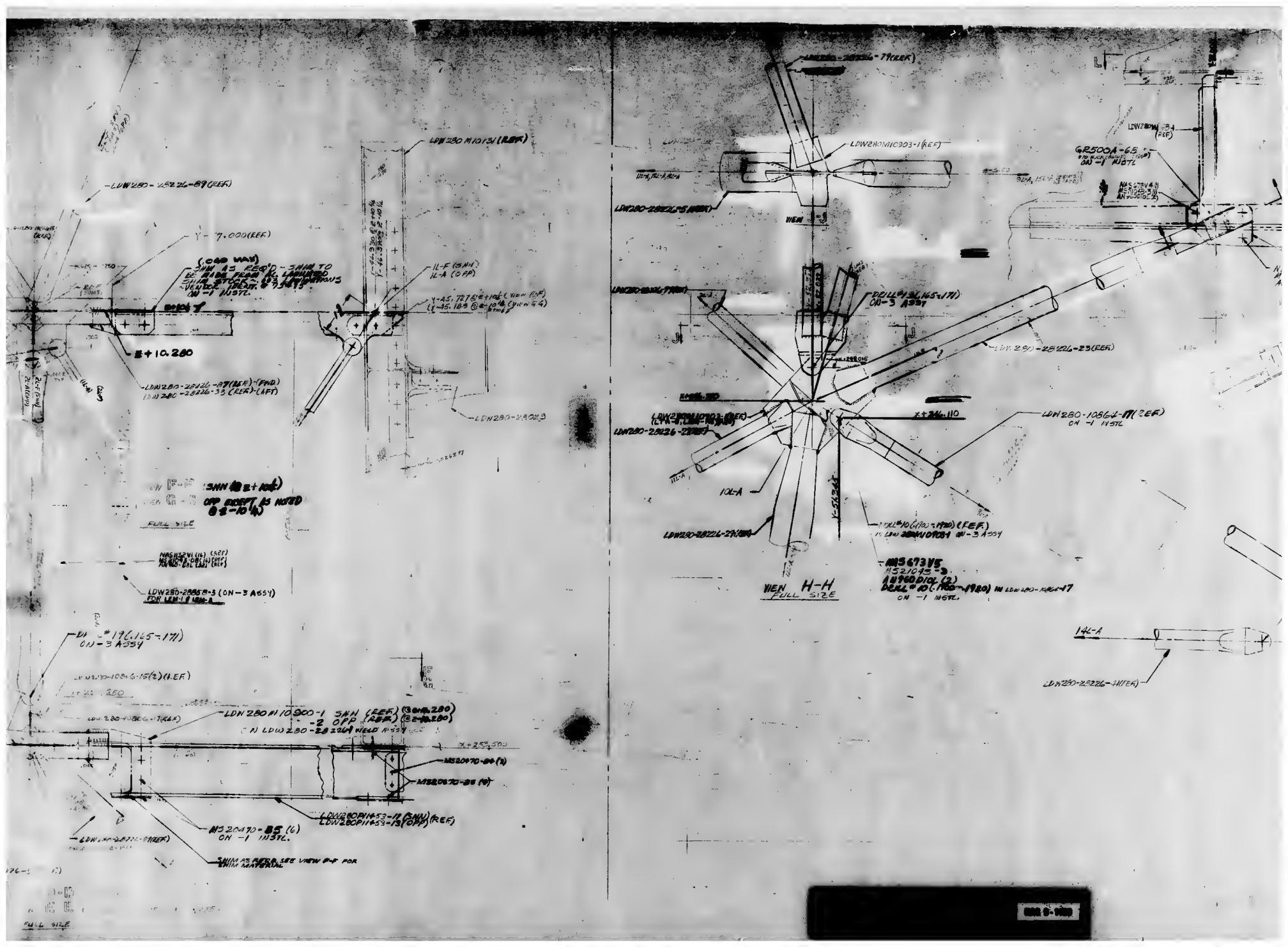
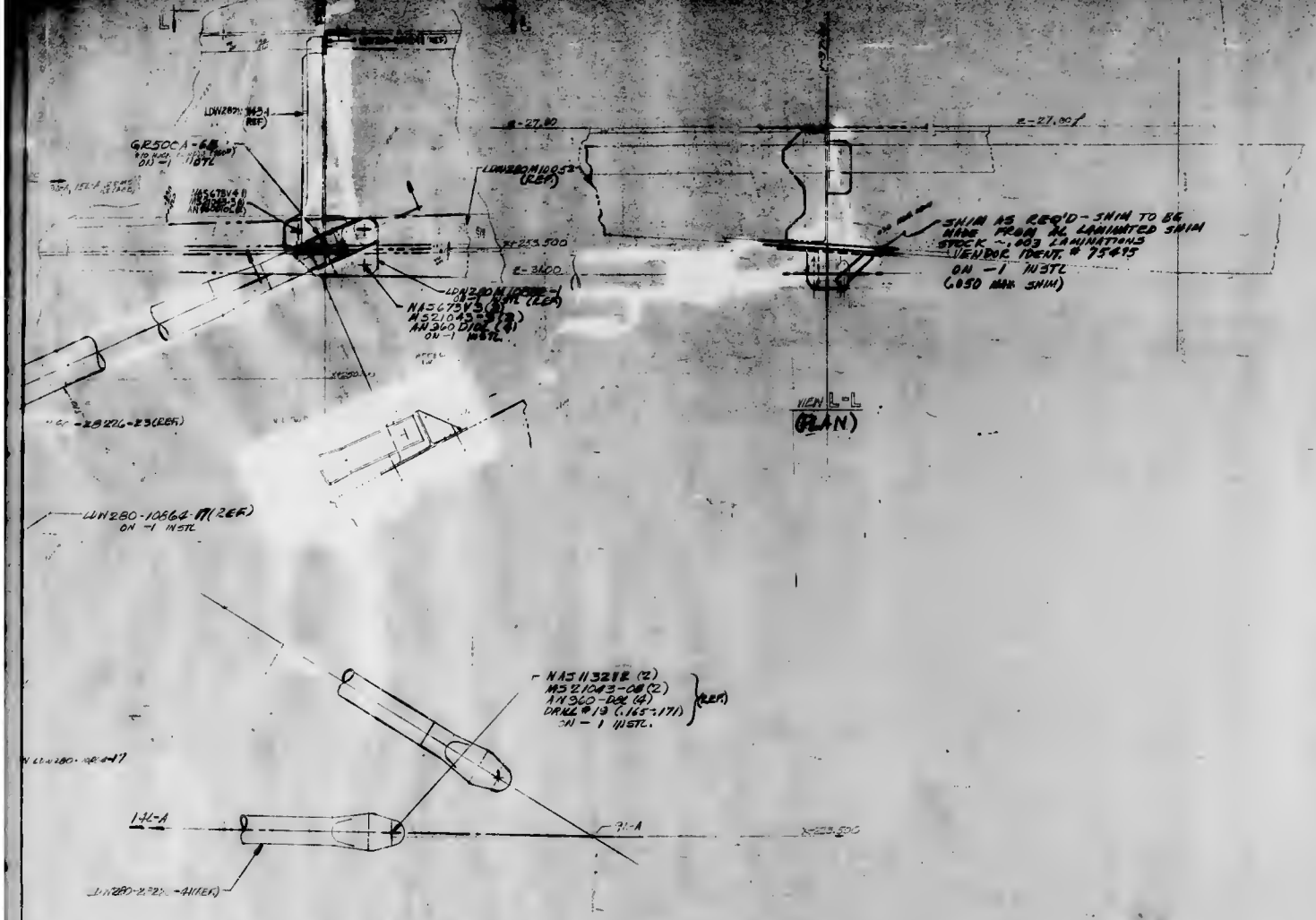
9.750
10.000
10.250
10.500
10.750


GR500A-5B (2)
ON -1 INSTL
LDW280M10611-1
ON -1 INSTL
MS1525-4 (REF.)
NAS1080D5
FINAL HOLE SIZE TO BE .164-.166
ON -1 INSTL.
LDW280-28226-89 (REF.)
Z+30.250 RLF
DRILL #40(.098-.102)
ON -1 INSTL
NAS1132V1 (2)
NAS1132V2 (1)
AN960J3-26 (3)
AN960-DSL (6)
DRILL #7 (.165-.171)
3 HOLES
ON -1 INSTL
DRILL #13(.165-.171)
ON -3 ASSY
X+253.400
10260 (REF.)
SHIM AS REQ'D (.040 MAX)
SHIM TO BE MADE FROM AL
LAMINATED SHIM STOCK .005 LAMINATIONS
-VENDOR IDENT # 95495
ON -1 INSTL.
NAS1132V1 (12) (REF)
MS21043-08 (12) (REF)
AN960-DSL 24 (REF)
LDW25L28856-1
FOR LTR 9 ONLY
(ON -3 ASSY)
NAS673V3
MS21043-4
AN960D416L (2)
REAM .2495-.2515
ON -1 INSTL.
0 / 03
NAS 9-1100


LDW280-M1013-1 (REF)
LDW280-28226-89 (REF)
7.000 (REF)
(CAD MAN)
SHIM AS REQ'D - SHIM TO BE MADE FROM ALL LAMINATED SHIM STOCK - 603 LAMINATIONS
VENDOR IDENT. # 75475
ON -1 INSTL
11L-F (SH-1)
11L-A (SHP)
Z+10.280
LDW280-28226-87 (REF) (FWD)
LDW280-28226-93 (REF) (AFT)
SHIM (@ Z+10.280)
OPP EXCEPT AS NOTED
@ Z-10.280
MS21032V6 (16) (REF)
MS21042-08 (16) (REF)
AN960-D8L (32) (REF)
LDW280-28858-3 (ON-3 ASSY)
FOR LEM-1 & LEM-2
LDW280P11453-1 SHIM (REF) (@Z+10.280)
-2 OPP (REF) (@Z-10.280)
W LDW280-28226 WELD X-334
MS20470-B6 (2)
MS20470-B6 (6)
LDW280P11453-11 (SHIM) (REF)
LDW280P11453-13 (OPP) (REF)
MS20470-B5 (6)
ON -1 INSTL.
SHIM AS REQ'D, SEE VIEW B-B FOR SHIM MATERIAL
LDW280-28226-79 (REF)
LDW280-28226-5 (REF)
VIEW J-J
GR500A-6.5
ON -1 INSTL
MS21042N3
AN960D3
LDW280M10903-1 (REF)
DRILL #13 (.185+.171)
ON-3 ASSY
LDW280-28226-23 (REF)
X+246.780
X+246.110
LDW280-28226-27 (REF)
LDW280M10903-3 (REF)
(LWA-8, LBM-10) (REF)
LDW280-10564-17 (REF)
ON -1 INSTL
10L-A
DRILL #10 (.193+.1920) (REF.)
W LDW280M10903-1 ON-3 ASSY
MS21042-3
AN960D10L (2)
DRILL #10 (.193+.1920) IN LDW280-28226-47
ON -1 INSTL.
VIEW H-H
FULL SIZE
14L-A
LDW280-28226-11 (REF)


LDW280 M10131 (REF)
LDW280 - 28226 - 89 (REF)
Y - 7.000 (REF)
(CAD WAY)
SHIM AS REQ'D - SHIM TO BE MADE FROM ALUMINUM SHIM STOCK - 0.03 THICK
VENDOR DRAWING # 75413
ON -1 INSTL
Y - 45.727 @ Z + 10.280 (VIEW F-F)
(Y - 45.189 @ Z - 10.280 (VIEW G-G)
II-F (SHIM)
II-A (OPP)
Z + 10.280
LDW280 - 28226 - 87 (REF) - (FWD)
LDW280 - 28226 - 93 (REF) - (AFT)
LDW280 - 28228 - 3
SHIM AS REQ'D Z + 10.280
OPP EXCEPT AS NOTED Z - 10.280
FULL SIZE
LDW280 - 28858 - 3 (ON - 3 A554)
FOR LEF - 1 FOR - A
LDW280 - 10864 - 15 (2) (REF)
LDW280 M10900 - 1 SHIM (REF) @ Z + 10.280
- 2 OPP (REF) @ Z - 10.280
(N LDW280 - 28226 WELD A554
X + 25.500
MS20470 - 8S (2)
MS20470 - 8S (6)
ON - 1 INSTL.
LDW280P11453 - 11 (SHIM) (REF)
LDW280P11453 - 13 (OPP) (REF)
SHIM AS REQ'D SEE VIEW B-B FOR SHIM MATERIAL
LDW280 - 28226 - 79 (REF)
LDW280M10303 - 1 (REF)
LDW280 - 28226 - 5 (REF)
VIEW H-H
FULL SIZE
GR500A - 6S
ON - 1 INSTL
MS27484 - 3
MS21042 - 3
AN960D10L (2)
DRILL #10 (.190 - .1920) IN LDW280 - 28226 - 47
ON - 1 INSTL.
DRILL #7 (.165 - .171)
ON - 3 A554
LDW280 - 28226 - 23 (REF)
X + 24.110
LDW280 - 10864 - 17 (REF)
ON - 1 INSTL
10L - A
LDW280 - 28226 - 27 (REF)
MS5673V5
14L - A
LDW280 - 28226 - 41 (REF)



MANUFACTURING OPERATIONS

UNLESS OTHERWISE SPECIFIED WORDS ENCLOSED √ APPLY TO THIS DWG.

PART CHANGE
AND ALL OTHER MARKINGS IN ERROR MARKED [redacted] USE BOTH SIDES OF ENCLOSURE.

FILLET AND SPRING CHANGE RADII TOLERANCES
.XXX TO .XXX ± .XXX
.XXX TO .XXX ± .XX
.XXX .XXX ± .XXX

.XXX" IS SHOWN FOR CLAMPED PARTS ONLY FULL RADII TO BE .XXX" THICK BEYOND POINT OF TANGENCY

EXTERIOR CORNERS - SHARP BREAK OR CHAMFER 2 IMPERFECT THREADS MAX

DO NOT CADMIUM PLATE & PAINT HOLES OR SURFACES MARKED WITH DOUBLE HATCHING

DIMENSION STEP OF ± .XXX PERMISSIBLE DUE TO CHANGE OF CUTTERS AT INNER INTERSECTING SURFACES

DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING

HOLES MUST BE KEPT FREE OF CHROME PLATING SOLUTION

ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING TOLERANCE OF PLATE .XXX MIN. TO .XXX MAX WITH THICKNESS TO BE .XXX ON 1-SIDED AREAS. NO ALLOWANCE FOR PLATING ON HOLES

√ SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL-STD-10

√ FOR ALL DRILLED HOLES

REMOVE ALL BURRS. BREAK ALL EDGES .005-.015

INSPECTION INFORMATION
MAGNAFLUX PERMISSIBLE
AVERAGE EDGE DISTANCE WARNED IN

SYMBOL √ DENOTES SURFACE TO BE MACHINED

UNLESS OTHERWISE SPECIFIED TOLERANCE ON FRACTIONS IS ± 1/16

LENGTHS OF AN, MS & BMS NAS RIVETS SHORTER THAN 3/8 IN ARE NOT SPECIFIED

TOLERANCE ON LOFTED DIMENSIONS IS

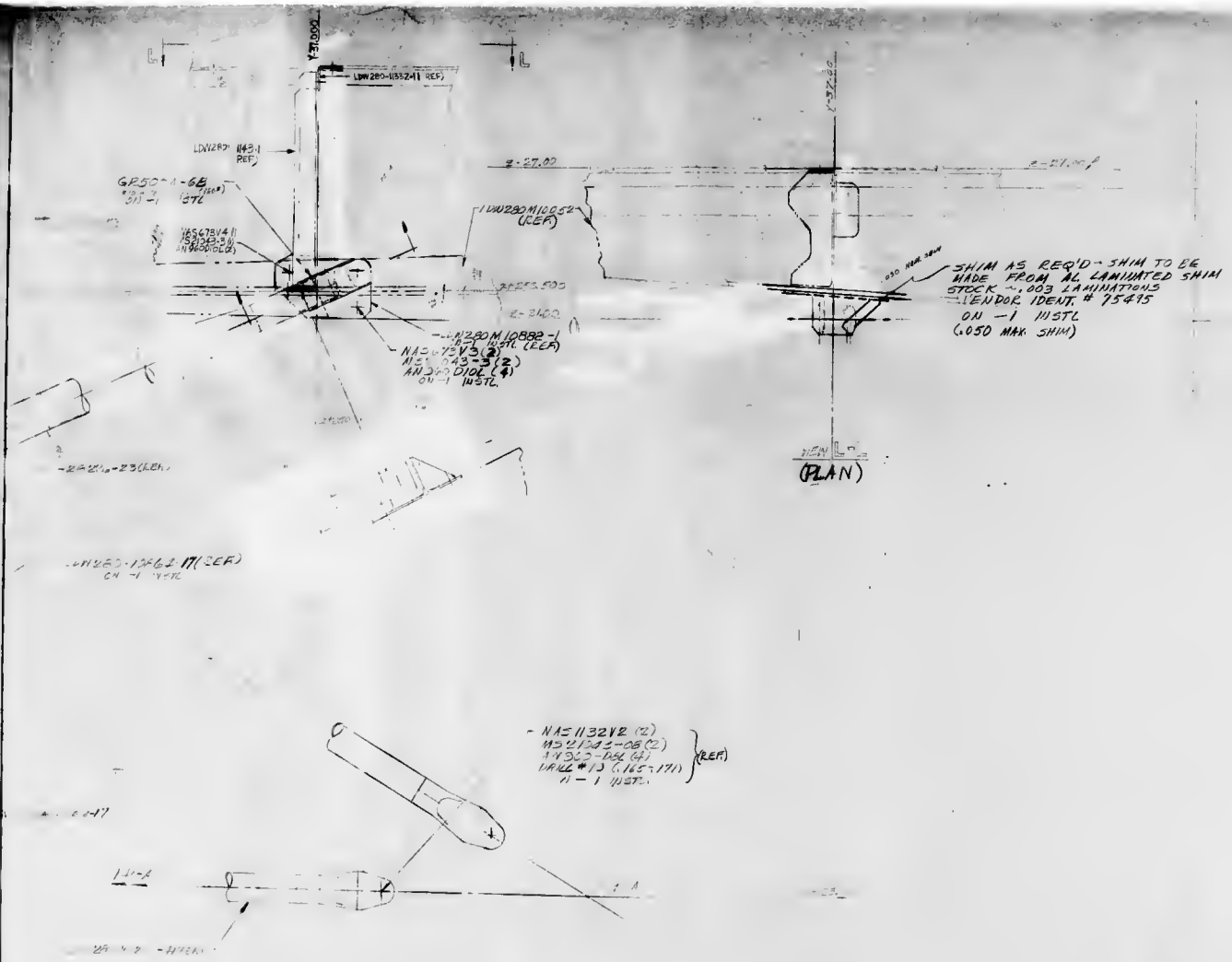
[redacted]

CHRYSLER AIRCRAFT ENGINEERING — AUTOMATIC CONTROL

J 26512 LDW280-10155

THIS IS AN ORIGINAL DRAWING

SHT 3 OF 6

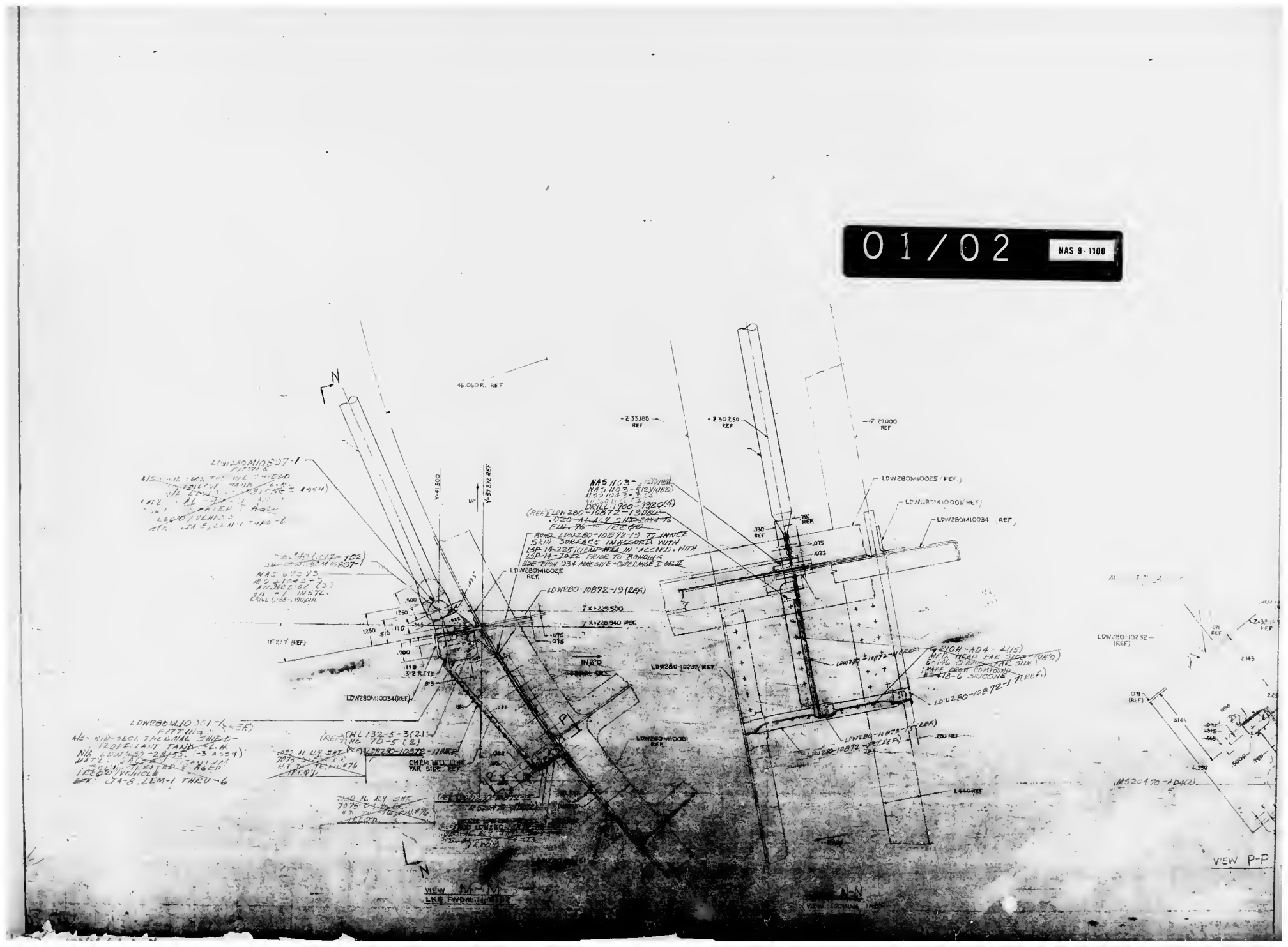


MANUFACTURING OPERATIONS
UNLESS OTHERWISE SPECIFIED NOTES CHECKED (√) APPLY TO THIS DRG
PART NUMBER AND ALL OTHER MARKINGS TO BE IN MARKED AREA USE BOTH SIDES IF NECESSARY
FILLET AND RADIUS SUMMER PAINT TOLERANCES
DO NOT MIX LOT WITH SUBSEQUENT LOT
INSPECTION STEP C PERMISSIBLE REJECTION OF OUTLINES AT FINAL INSPECTION SURFACE
PROPERTIES MARKS MUST BE CONSISTENT WITH
BEARING
ALL SURFACES SHOWN TO BE MADE CADMIUM PLATED
ALL UNMACHINED SURFACES TO BE PAINTED
HOLES
BREAK
FINISH MARKS SURFACE FINISH TOLERANCE MARKED
UNLESS TOLERANCE

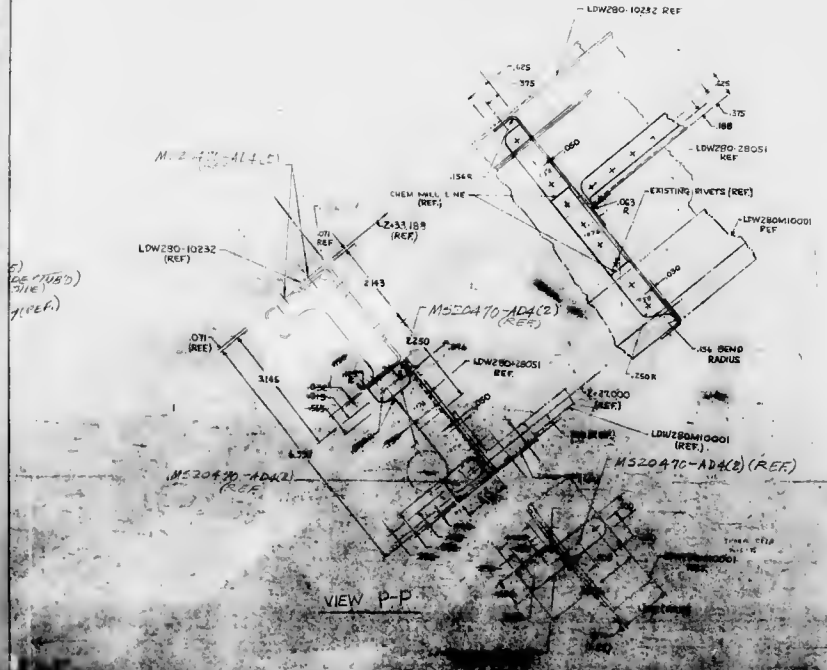
03/03 NAS 9-1100

26512 LDW280-2B155

THIS IS AN ORIGINAL DRAWING SHT 5 OF 6


VIEW P-P
LDW280M10025 (REF.)
LDW280M10001 (REF.)
LDW280M10034 (REF.)
LDW280-10232 (REF.)
LDW280-10872-19 (REF.)
LDW280M10001
LDW280M10034 (REF.)
LDW280M10025
LDW280-10232 REF.
LDW280-10872-19 (REF.)
LDW280-10872-1 (REF.)
LDW280-10232 (REF.)
MS20470-AD4(2)
CHEM MILL LINE PAR SIDE REF.
INSET
46.060 R. REF
+Z 33188 REF
+Z 30250 REF
+Z 27000 REF
Y-41.500
Y-37.832 REF
11°23' (REF.)
.330 REF
.280 REF
.075
.025
.500
.250
.700
.110
.312 R.TYP
.813
.188
.092
.071 (REF.)
.271 REF.
.3145
.5625
.6.350
.500
.750
2.143
2.229
VIEW N-N
VIEW M-M
LKG FWD

01/02 NAS 9-1100



MANUFACTURING OPERATIONS

UNLESS OTHERWISE SPECIFIED
NOTES CHECKED √ APPLY TO THIS DWG.

PART NUMBER AND ALL OTHER MARKINGS IN INDIAN MARKER SHALL USE BOTH SIDES IF NECESSARY

FILLET AND RADIUS CORNER RADII TOLERANCES
.010R TO .062R ± .010
.063R TO .250R ± .015
OVER .250R ± .030

DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS. 2.5 MIN THDS BEYOND PERMISSIBLE

EXTERNAL THREAD LENGTH SHOWN, INCLUDES 2 IMPERFECT THREADS MAX.

DO NOT CADMIUM PLATE & PAINT HOLES OF SURFACES MARKED WITH DOUBLE ASTERISK

MISMATCH STEP OF ± .10 PERMISSIBLE DUE TO CHANGE OF CUTTERS AT VARIOUS INTERSECTING SURFACES

DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING

HOLES MUST BE KEPT FREE OF CHROME PLATING SOLUTION

ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING
THICKNESS OF PLATE .0015 MIN TO .0005 MAX. SUM THICKNESS TO BE .0007 ON THREADED AREAS.
NO ALLOWANCE FOR PLATING IN HOLES

SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL-STD-10

FOR ALL DRILLED HOLES

REMOVE ALL BURRS.
BREAK ALL EDGES .015-.035

INSPECTION INFORMATION
MINIMUM PERMISSIBLE
AVERAGE EDGE DISTANCE (RADIUS) .05

SYMBOL √ DENOTES SURFACE TO BE MACHINED

UNLESS OTHERWISE SPECIFIED TOLERANCE ON FLANGES IS ± 1/32

LENGTHS OF AN, BAS & MS AL ALT RIVETS SHORTER THAN 1 INCH ARE NOT SPECIFIED.

TOLERANCE ON LOFTED DELINEATIONS ±3

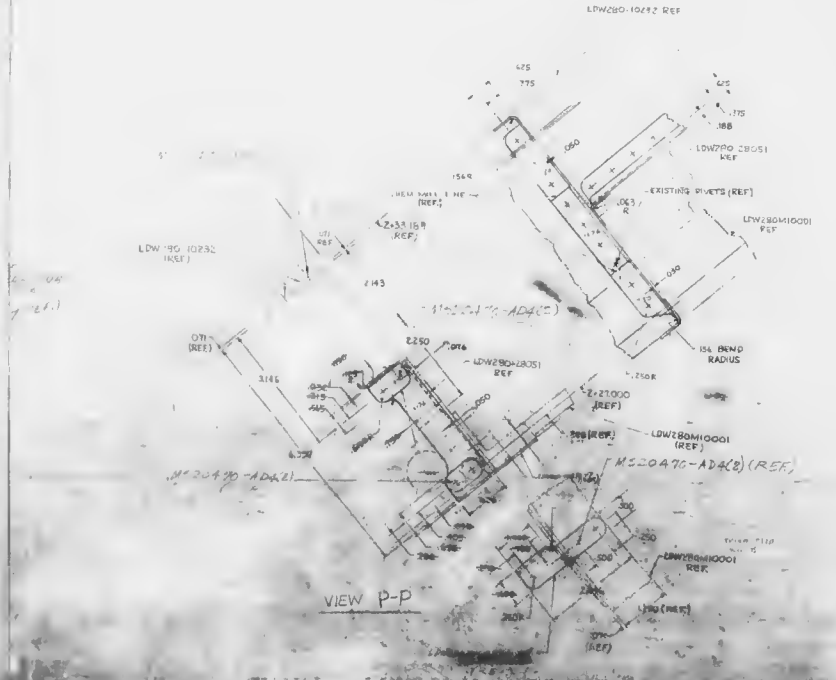
02/02

NAS 9-1100

CHANCE VOUGHT AIRCRAFT ENGRG CORP., BETHPAGE, L.I., NEW YORK

	SIZE	CODE IDENT NO.	DWG NO.
LEM	J	26512	LDW280-28155
MODEL OR FIRST ITEM	SCALE NOTED		SHEET 6 OF 6

THIS IS AN ORIGINAL DRAWING



MANUFACTURING OPERATIONS

UNLESS OTHERWISE SPECIFIED
NOTES CHECKED √ APPLY TO THIS DWG

PART NUMBER
AND ALL OTHER MARKINGS
IN REGION MARKED
USE BOTH SIDES IF NECESSARY

FILLET AND INSIDE CORNER
RADII TOLERANCES
.010R TO .062R ± .010
.063R TO .250R ± .015
OVER .250R ± .030

DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS + 1 IMP THDS BEYOND PERMISSIBLE

EXTERNAL THREAD LENGTH SHOWN INCLUDES 3 IMPERFECT THREADS MAX

DO NOT CADMIUM PLATE 6-32 NC HOLES OR SURFACES MARKED WITH DOUBLE ASTERISK

MISMATCH .015" OR ± .20 PERMISSIBLE DUE TO CHANGE OF CENTERS BETWEEN INTERSECTING SURFACES

DIAMETERS MARKED MUST BE CHECKED BY GO & NO-GO PLUG INDICATOR READING

HOLES MUST BE KEPT FREE OF CHROME PLATING SOLUTION

ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING
THICKNESS OF PLATING SHALL BE .0005 TO .0005 MAX. MIN. THICKNESS TO BE .0002 ON THREADED AREAS
NO ALLOWANCE FOR PLATING IN HOLES

63 SURFACE ROUGHNESS INCLUDING REAMED HOLES PER # 1-513-18

63 FOR ALL DRILLED HOLES

REMOVE ALL BURRS
BREAK ALL EDGES .015-.030

INSPECTION INFORMATION
MINIMUM PLINKSIBLE
AVERAGE EDGE DISTANCE
MARKED .15

SYMBOL ✓ INDICATES SURFACE TO BE MACHINED

UNLESS OTHERWISE SPECIFIED
TOLERANCE ON FLANGES ± .1 FT

LENGTHS OF AN, NAS, & MS AL ALY RIVETS SHOWN THAN 1 INCH ARE NOT SPECIFIED

TOLERANCE ON LOFTED DELINEATIONS IS

02 / 02

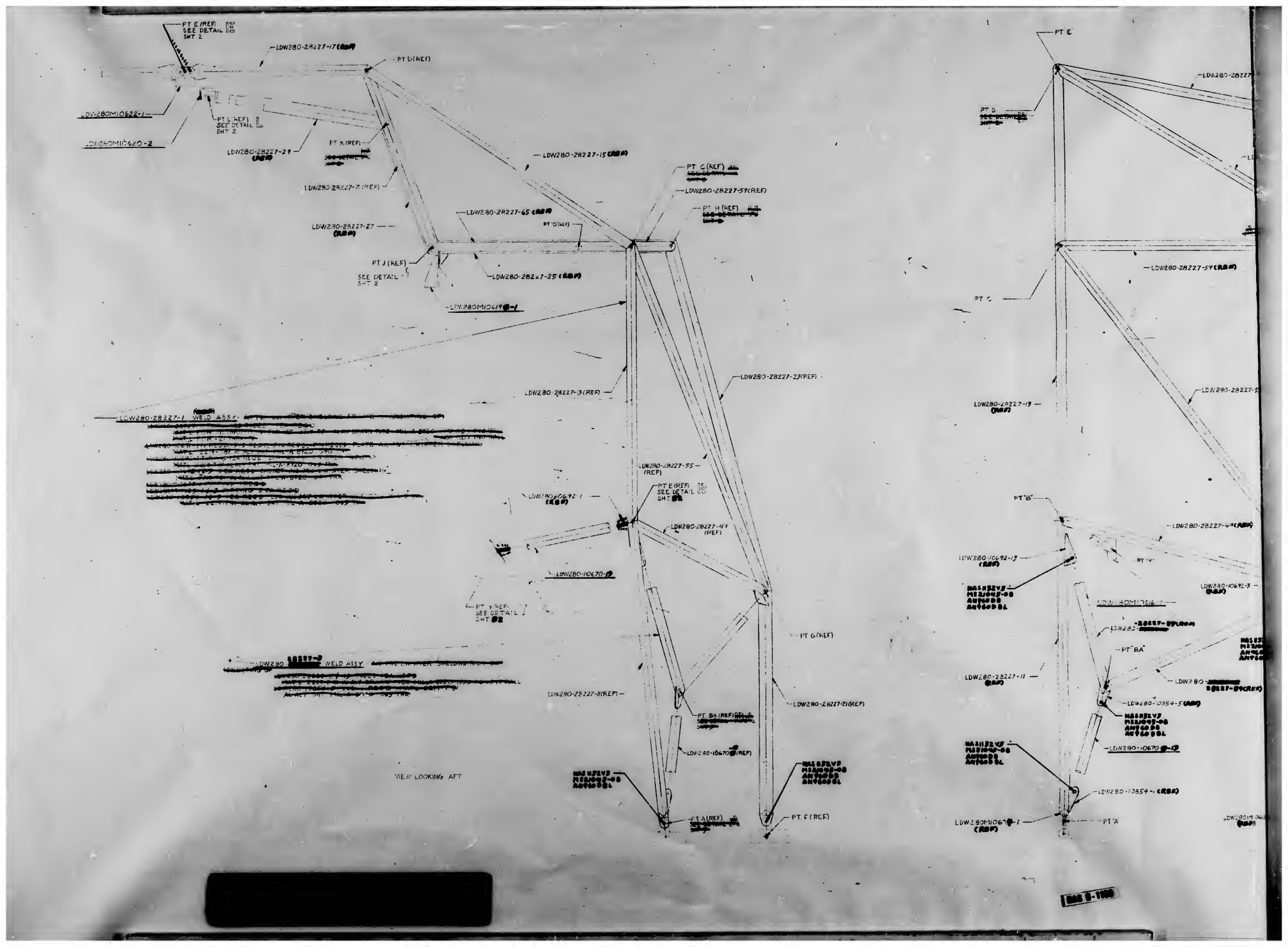
NAS 9-1100

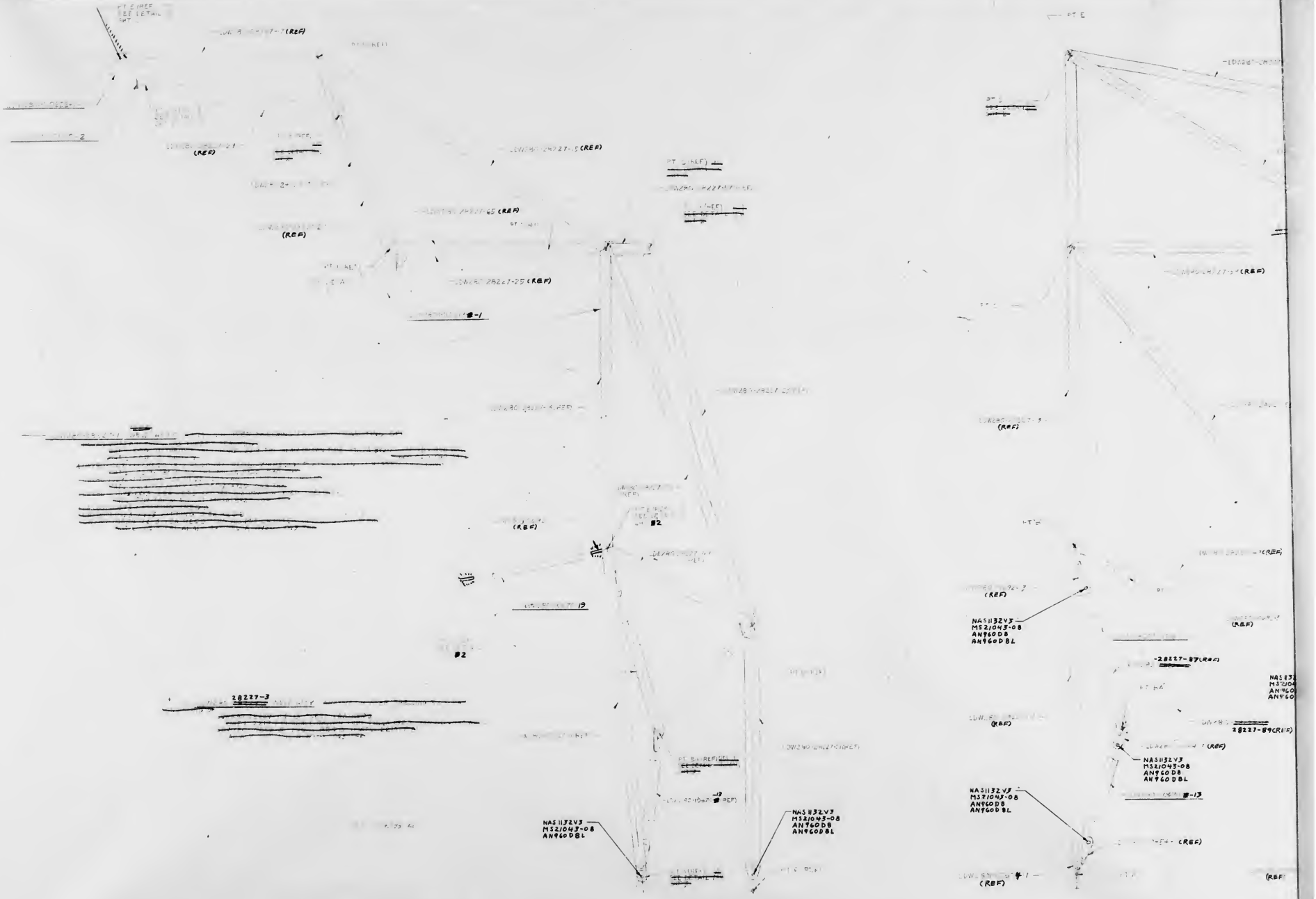
GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L.I., NEW YORK

LEM	J	26512	LDW280-28155

SHOT 5 OF 5

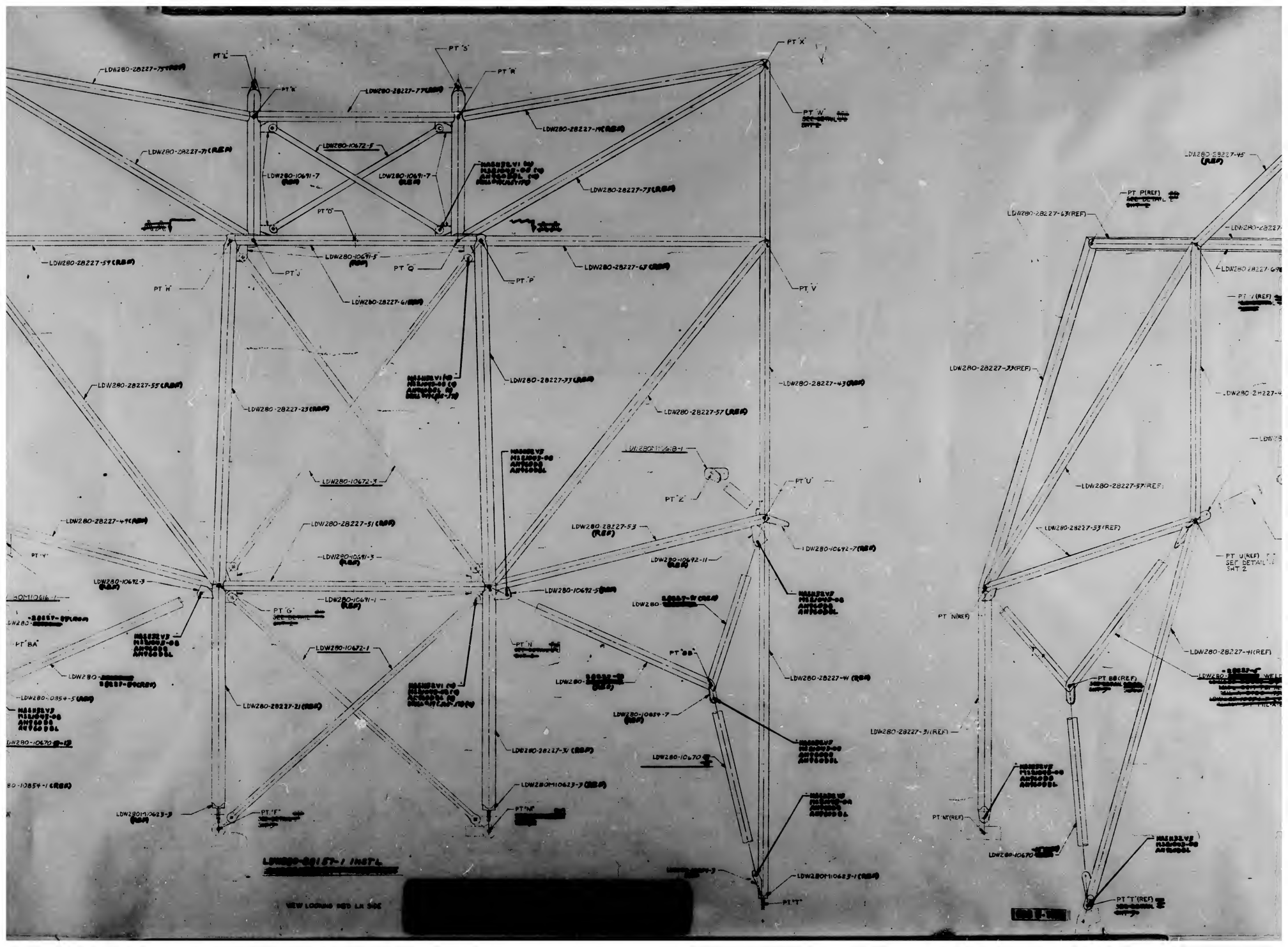
THIS IS AN ORIGINAL DRAWING

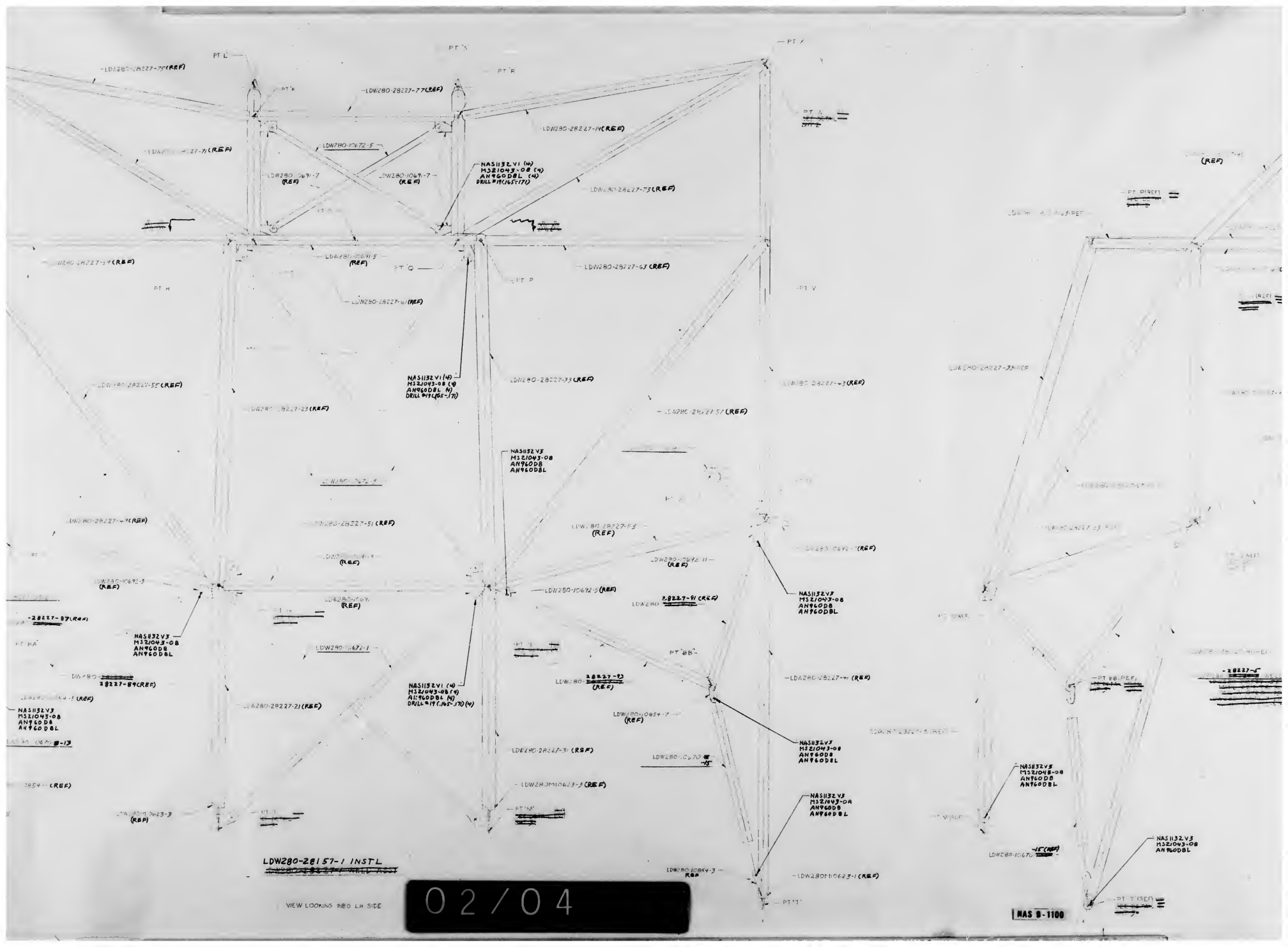

PT E (REF) SEE DETAIL SHT 2
LDW280-28227-17 (REF)
PT D (REF)
LDW280M10622-1
PT L (REF) SEE DETAIL SHT 2
LDW280M10620-2
LDW280-28227-29 (REF)
PT K (REF)
LDW280-28227-7 (REF)
LDW280-28227-15 (REF)
PT C (REF)
LDW280-28227-57 (REF)
PT H (REF)
LDW280-28227-65 (REF)
LDW280-28227-27 (REF)
PT G (REF)
PT J (REF) SEE DETAIL SHT 2
LDW280-28227-25 (REF)
LDW280M10619-1
LDW280-28227-3 (REF)
LDW280-28227-23 (REF)
LDW280-28227-1 WELD ASSY
LDW280-28227-55 (REF)
PT E (REF) SEE DETAIL SHT 2
LDW280M10692-1 (REF)
LDW280-28227-47 (REF)
LDW280-10670-1
PT Y (REF) SEE DETAIL SHT 2
LDW280-28227-9 WELD ASSY
PT G (REF)
LDW280-28227-11 (REF)
LDW280-28227-21 (REF)
PT BA (REF)
LDW280-10670-2 (REF)
VIEW LOOKING AFT
PT F (REF)
PT A (REF)
PT E
LDW280-28227
PT D
LDW280-28227-57 (REF)
PT C
LDW280-28227-5
LDW280-28227-13 (REF)
PT B
LDW280-28227-47 (REF)
LDW280M10692-13 (REF)
PT Y
LDW280-10692-3 (REF)
LDW280M10616-1
LDW280-28227-9 (REF)
PT BA
LDW280-28227-11 (REF)
LDW280-10854-5 (REF)
LDW280-10670-2 (REF)
LDW280-10854-1 (REF)
LDW280M10620-1 (REF)
PT A



01/04

NAS 9-1100


PT 'L'
PT 'S'
PT 'X'
PT 'K'
PT 'R'
PT 'W'
LDW280-28227-7 (REF)
LDW280-10672-5
LDW280-10691-7 (REF)
PT 'O'
PT 'Q'
PT 'J'
PT 'P'
PT 'V'
PT 'H'
LDW280-28227-55 (REF)
LDW280-28227-23 (REF)
LDW280-28227-57 (REF)
LDW280-10672-3
LDW280-28227-51 (REF)
LDW280-10691-3 (REF)
PT 'Z'
PT 'U'
LDW280-28227-53 (REF)
LDW280-10692-7 (REF)
LDW280-10692-11 (REF)
LDW280-10692-3 (REF)
LDW280-10691-1 (REF)
LDW280-10692-5 (REF)
PT 'G' SEE DETAIL
PT 'BA'
LDW280-10672-1
PT 'N'
PT 'BB'
LDW280-28227-21 (REF)
LDW280-10859-7 (REF)
LDW280-10670
LDW280-28227-31 (REF)
LDW280M10623-3 (REF)
PT 'F'
PT 'T'
LDW280M10623-1 (REF)
VIEW LOOKING OUTBD LH SIDE
PT P(REF) SEE DETAIL 1 SHT 2
LDW280-28227-63(REF)
LDW280-28227-33(REF)
LDW280-28227-43(REF)
LDW280-28227-57(REF)
LDW280-28227-53(REF)
PT U(REF) SEE DETAIL 1 SHT 2
PT N(REF)
LDW280-28227-41(REF)
PT BB(REF)
LDW280-28227-31(REF)
PT T(REF)


LDW280-28157-1 INSTL
VIEW LOOKING AFD LH SIDE
02/04
NAS 8-1100

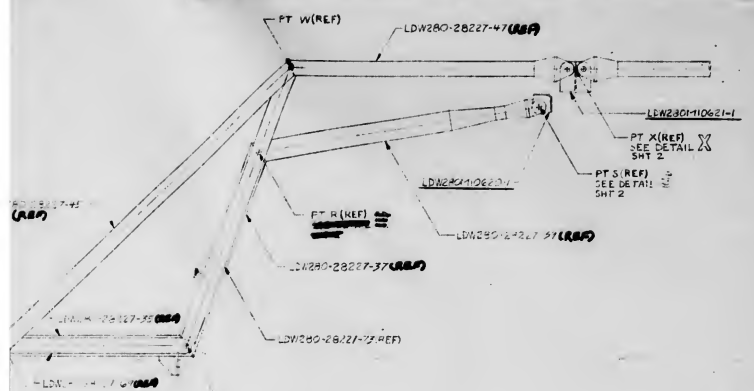
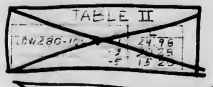


TABLE I

POINT	X	Y	Z
	259.475	-32.275	30.250
P	277.250	-31.000	30.250
P	298.125	-31.000	30.250
	311.625	-30.000	30.250
	311.625	-15.250	30.250
	273.420	-28.000	10.250
P	272.000	-30.000	10.250
P	298.125	-32.000	11.450
	298.125	-35.000	7.750
P	307.500	-31.528	7.750
	309.750	-12.338	7.750
	283.430	-25.006	10.250
P	272.000	-28.000	10.250
	298.125	-34.000	9.000
P	298.125	-34.000	7.750
	298.125	-35.000	7.750
P	307.500	-31.528	7.750
	309.750	-17.338	7.750
	298.016	-32.259	31.000
U	277.250	-44.000	31.000
P	298.125	-44.000	31.000
P	311.625	-30.000	31.000
	311.625	-15.250	31.000
	273.115	-39.840	28.500
	280.625	-36.710	27.000
P	280.500	-33.530	27.000
P	280.500	-33.564	27.000

TABLE II



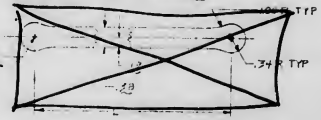
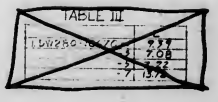


TABLE III



NOTES

1. ALL INFORMATION FOR MANUFACTURE OF DETAIL PARTS IS FOR REFERENCE PURPOSES ONLY.
2. ALL TUBES TO BE CHEM MILLED TO .015 REMAINING WALL THICKNESS BETWEEN ENDS AS SHOWN EXCEPT LDW280-28227-11, -41, -43, -53, -57. THESE TUBES TO BE CHEM MILLED TO .028 REMAINING WALL THICKNESS.
3. TUBE ENDS TO BE FLATTENED ARE TO BE CHEM MILLED PRIOR TO FLATTENING.
4. TUBE ENDS TO BE SWAGED ARE TO BE CHEM MILLED AFTER SWAGING.
5. THE FOLLOWING DETAIL PARTS ARE SHOWN ON THIS DWG.
   LDW280-10570 LDW280-10854
   LDW280-10672 LDW280-28259
   LDW280-10691
   LDW280-10673
   LDW280-10695
6. WELDING STANDARD 493 PER SPEC LSP-M-6201. DYE PENETRANT CHECK ONLY. NO RADIOGRAPHIC INSPECTION REQUIRED.
7. FLATTENED TUBE DETAILS TO HAVE NO 40 PILOT HOLE IN ENDS. HOLES TO BE DRILLED FULL SIZE ON ASSY.
8. FILLET WELD TO BE 1/8 TYP AT ALL WELDED JOINTS
9. TOLERANCE ON COORDINATES MARKED ± 5°.
10. BRUSH ALODINE ON ALL UNPAINTED AREAS AFTER WELDING

NOTES

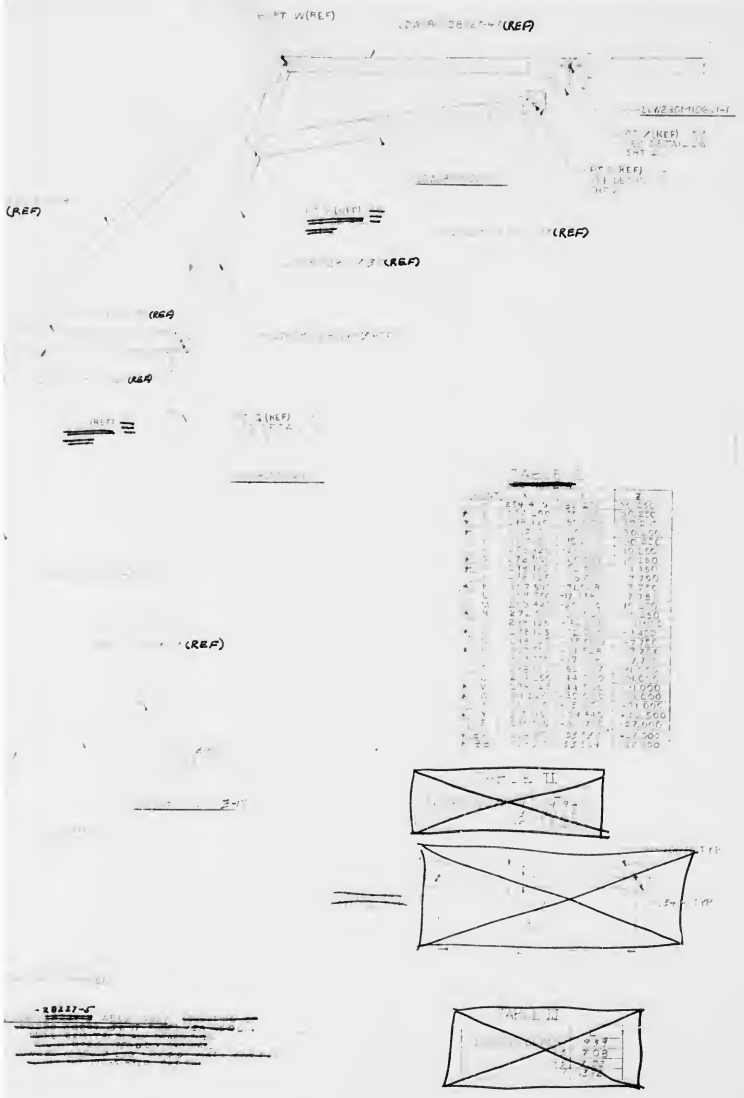
1. INSTALL FASTENERS PER LSPM-6208, LSPM-6209.
2. ENDS AS REQD USING AL ALLOY 6061-T6, 6061-T4 TEMPER MS

1	ML70-5		
1	ML10V-8-4		
2	GR500A-4N		
4	AN960D416L		WASHER
41	AN960D8L		WASHER
17	AN960D8		WASHER
2	NAS132V4		BOLT
17	NAS132V3		BOLT
13	NAS132V2		BOLT
13	NAS132V1		BOLT
4	NAS6704V5		BOLT
44	MS21043-08		NUT
1	LDW280-M10622-1		FITTING
1	M10621-1		
1	M10620-4		
1	M10620-1		
2	M10618-1		
1	M10618-1		
1	LDW280-110646-1		FITTING
2	-5		STRAP
2	-9		
2	LDW280-10672-1		STRAP
1	LDW280-10672-17		TUBE
1	-11		
1	-13		
1	LDW280-10630-13		TUBE
1	LDW280-28227-5		WELD ASSY
1	LDW280-28227-3		WELD ASSY
1	LDW280-28227-1		WELD ASSY
1	LDW280-28157-1	E	INSTALLATION

LEM	LDW280-28156	LEM6 (20)	1
		LEM5 (10)	8
		LEM4 (24)	
		LEM3 (11)	
		LEM2 (24)	6
		LEM1 (11)	1
LEM	LDW280-28150	LTA-5 (24)	1

LDW280-28157-1 SO-

MAS 8-1100



NOTES

1. ALL INFORMATION FOR MANUFACTURE OF DETAIL PARTS IS FOR REFERENCE PURPOSES ONLY.
2. ALL TUBE TO BE CHEM MILLED TO .012 +.003 -.000 REMAINING WALL THICKNESS BETWEEN ENDS AS SHOWN EXCEPT ~~LDW280-28227-11,-41,-49,-53,-55&-57~~ THESE TUBES TO BE CHEM MILLED TO .025 +.003 -.000 REMAINING WALL THICKNESS.
3. TUBE ENDS TO BE FLATTENED ARE TO BE CHEM MILLED PRIOR TO FLATTENING.
4. TUBE ENDS TO BE SWAGED ARE TO BE CHEM MILLED AFTER SWAGING.
5. THE FOLLOWING DETAIL PARTS ARE SHOWN ON THIS DWG.

LDW280-10670	LDW280-10854
LDW280-10672	LDW280-28229
LDW280-10691	
LDW280-10692	
LDW280-10695	

6. WELDING STANDARD #3 PER SPEC. LSP-IH-6201. DYE PENETRANT CHECK ONLY NO RADIOGRAPHIC INSPECTION REQUIRED.
7. FLATTENED TUBE DETAILS TO HAVE NO 40 PILOT HOLE IN ENDS. HOLES TO BE DRILLED FULL SIZE ON ASSY.
8. FILLET WELD TO BE 1/8 TYP AT ALL WELDED JOINTS
9. TOLERANCE ON COORDINATES MARKED ± 1/2
10. BRUSH ALODINE ON ALL UNFINISHED AREAS AFTER WELDING

NOTES

1. INSTALL FASTENERS PER LSPIH-15303, LSPIH-15306
2. SHIM AS REQ'D USING AL ALLOY QQ-A-327, 2024-T3 FINISH 76

NO.	FINISHES	GRUMMAN STD SPEC	MILITARY SPEC NO.
2	CADMIUM PLATE	S. S. S.	
10	ZINC CHROMATE PRIMER	S. S. S.	
19	TINTED PRIMER, 1 COAT	S. S. S.	
31	ALODINE	S. S. S.	
88	ANODIZE	S. S. S.	

SYM	PROCESSES	GRUMMAN STD SPEC	MILITARY SPEC NO.
	AL HEAT TREAT		MIL-H-6088
	MAGNAFLUX		MIL-I-6868
	PENETRANT INSPECTION (ZYGLO)		MIL-I-6866
	THREADING		MIL-S-7742
	STEEL HEAT TREAT PSI ROCKWELL C TO C		

RECORD E. O.'s

MODEL	E O NUMBER	MODULE NO.

MANUFACTURING OPERATIONS

NOTES CHECKED ✓ APPLY TO THIS DWG.

- ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING. THICKNESS OF PLATE .0002 MIN TO .0005 MAX. MIN THICKNESS TO BE .0002 ON THREADED AREAS NO ALLOWANCE FOR PLATING IN HOLES EXCEPT AS NOTED.
- REMOVE ALL BURRS. BREAK ALL EDGES .015 .031 EXCEPT AS NOTED
- SURFACE ROUGHNESS INCLUDING BEARING HOLES PER MIL-STD-10 EXCEPT AS NOTED.
- FOR ALL DRILLED HOLES UNLESS OTHERWISE SPECIFIED. ✓
- HOLES MUST BE KEPT FREE OF CHROME PLATING SOLUTION
- PART NUMBER AND ALL OTHER MARKINGS IN REGION MARKED USE BOTH SIDES IF NECESSARY.
- FILLET AND INSIDE CORNER RADII TOLERANCES .010 TO .029 = .010 .030 TO .250 = .015 OVER .250 = .030
- DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS. 2-3 MP THDS BEYOND PERMISSIBLE.
- EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 IMPERFECT THREADS MAX.
- DO NOT CADMIUM PLATE & PAINT HOLES OR SURFACES MARKED WITH DOUBLE ASTERISK.
- MISMATCH STEP OF .005 PERMISSIBLE DUE TO CHANGE OF CUTTERS AT INSIDE INTERSECTING SURFACES.
- DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING
- INSPECTION INFORMATION MINIMUM PERMISSIBLE AVERAGE EDGE DISTANCE MARKED IS
- SYMBOL ⚡ DENOTES SURFACE TO BE MACHINED
- UNLESS OTHERWISE SPECIFIED TOLERANCE ON FLANGES IS ± 1/32

QTY REQ'D PER ASSY	PART OR IDENTIFYING NO.	F&T	EDGE IDENT.	NOMENCLATURE OR DESCRIPTION
				INSTALLATION
-1	LDW280-28157-1	E		
1	HL70-5			
1	HL102-5-7			
2	GR5DDA-4H			
4	AN960-416L			WASHER
41	AN960-8L			WASHER
17	AN960-8			WASHER
2	NAS132 V4			BOLT
17	NAS1132V3			BOLT
13	NAS1132V2			BOLT
12	NAS1132 V1			BOLT
4	NAS6704-5			BOLT
44	MS21043-08			NUT
1	LDW280-M10622-1			FITTING
1	M10621-1			
1	M10620-2			
1	M10620-1			
2	M10619-1			
1	M10618-1			
1	LDW280-10696-1			FITTING
2	-5			STRAP
2	-3			
2	LDW280-10672-1			STRAP
1	LDW280-10670-19			TUBE
1	-17			
1	-15			
1	LDW280-10670-13			TUBE
1	LDW280-28227-5			WELD ASSY
1	LDW280-28227-3			WELD ASSY
1	LDW280-28227-1			WELD ASSY

			LEM	LDW280-28150	LEM6 (2)	
					LEM5 (7)	
					LEM4 (14)	
					LEM3 (11)	
					LEM2 (2)	
					LEM1 (2)	
MODEL	NEXT ASSY	MODULE NO.	PIECES PER MODULE	MODEL	NEXT ASSY	MODULE NO.
PART NO.		GRUMMAN SCH. INFO		PART NO. LDW280-28157-1		LTA-8 (1) GRUMMAN SCH. INFO 30-

NAS 9-1100

03/04

04/04

NO.	FINISHES	CHROMASEAL STD SPEC	GRUMMAN STD SPEC	MIL/FAST SPEC NO.
2	CADMIUM PLATE		S. S. S.	
10	ZINC CHROMATE PRIMER		S. S. S.	
10	TINTED PRIMER, 1 COAT		S. S. S.	
15	ALODINE		S. S. S.	
89	ANODIZE		S. S. S.	

SYM	PROCESSES	CHROMASEAL STD SPEC	GRUMMAN STD SPEC	MIL/FAST SPEC NO.
	AL HEAT TREAT			MIL-H-6088
	RADIAPLATE			MIL-I-6868
	PENETRANT INSPECTION (ZYGLO)			MIL-I-6866
	THREADING			MIL-S-7742
	STEEL HEAT TREAT: PSI ROCKWELL C °F C			

RECORD E. O.'s

MODEL	E O NUMBERS	MODULE NO.

REVISIONS

REVISION LETTER	ITEM NO.	ZONE	AUTHORITY FOR REVISION: GRUMMAN SUPS SHEET	AUTHORITY FOR REVISION: SCAP, BE ESD	AUTHORITY FOR REVISION: CLASS I	AUTHORITY FOR REVISION: CLASS II	AUTHORITY FOR REVISION: MIL SPEC NO.	AUTHORITY FOR REVISION: ENGRG ORDER	DESCRIPTION	REVISED BY AND DATE	EFFECTIVE ON MODULE NUMBER	DISPOSITION OF EXIST PARTS: SCRAP	DISPOSITION OF EXIST PARTS: REWORK	ENGRG APVD	QUAL APVD

MANUFACTURING OPERATIONS

NOTES CHECKED = APPLY TO THIS DWG.

- ALL DIMENSIONS GIVEN TO BE MET AFTER FINISH(ES) APPLIED. THICKNESS OF PLATE ADDS ONE TO ADDED DIAM. DIM THICKNESS TO BE ADD ON THREADED AREAS. DO ALLOWANCE FOR PLATING IN HOLES EXCEPT AS NOTED.
- REMOVE ALL BURRS. BREAK ALL EDGES .015-.031 EXCEPT AS NOTED.
- SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL-STD 10 EXCEPT AS NOTED.
- FOR ALL DRILLED HOLES UNLESS OTHERWISE SPECIFIED. ✓
- HOLES MUST BE KEPT FREE OF CHROMIC PLATING SOLUTION.
- PART NUMBER AND ALL OTHER MARKINGS IN RECESS MARKED [ ] USE BOTH SIDES IF NECESSARY.
- FILLET AND RADIUS CORNER RADII TOLERANCES: .XXX TO .XXX ± .010; .XXX TO .XXX ± .005; OVER .XXX ± .030
- DEPTH GIVEN FOR TAPPED HOLES IS FULL THDS. 3.5 MIN THDS BEYOND PENETRABLE.
- EXTERNAL THREAD LENGTH MARKED UNCLIPPED 3 INSPERFECT THREADS MIN.
- DO NOT CADMIUM PLATE & PAINT HOLES OR SURFACES MARKED WITH RADIUS ARROWS.
- SMOOTHEN STOP OF ∅ AND PERIPHERALS DUE TO CHANGE OF CUTTERS AT MARKED INTERSECTION SURFACES.
- DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING
- INSPECTION INFORMATION REQUIRED PERIPHERALS AVERAGE EDGE DISTANCE MARKED IN
- SPECIAL ∅ MACHINED SURFACE TO BE CHROMISED
- UNLESS OTHERWISE SPECIFIED TOLERANCES ON FLANGES IN ± 1/32

NOTES

1. ALL INFORMATION FOR MANUFACTURE OF DETAIL PARTS IS FOR REFERENCE PURPOSES ONLY.
2. ALL TUBES TO BE CHEM MILLED TO .012 +.003 -.001 REMAINING WALL THICKNESS BETWEEN ENDS AS SHOWN EXCEPT LDW280-28121-41-49-53-55-57 THESE TUBES TO BE CHEM MILLED TO .025 +.003 -.001 REMAINING WALL THICKNESS.
3. TUBE ENDS TO BE FLATTENED ARE TO BE CHEM MILLED PRIOR TO FLATTENING.
4. TUBE ENDS TO BE SWAGED ARE TO BE CHEM MILLED AFTER SWAGING.
5. THE FOLLOWING DETAIL PARTS ARE SHOWN ON THIS DWG.
   LDW280-10670 LDW280-10854
   LDW280-10672 LDW280-28229
   LDW280-10691
   LDW280-10692
   LDW280-10695
6. WELDING STANDARD #3 PER SPEC LSP-14-6201.
7. DYE PENETRANT CHECK ONLY NO RADIOGRAPHIC INSPECTION REQUIRED.
8. FLATTENED TUBE DETAILS TO HAVE NO Ø PILOT HOLE IN ENDS. HOLES TO BE DRILLED FULL SIZE ON ASSY.
9. FILLET WELD TO BE 1/8 TYP AT ALL WELDED JOINTS
10. TOLERANCE ON COORDINATES MARKED ± 1/2
11. BRUSH ALODINE ON ALL UNFINISHED AREAS AFTER WELDING

NOTES

1. INSTALL FASTENERS PER LSPM-15308, LSPM-15306.
2. SHIM AS REQD USING AL ALLOY 6061-T6, 2024-T3 FINISH #6

TABLE I

POINT	X	Y	Z
A	154.440	37.870	30.550
B	277.280	37.870	30.250
C	248.160	-50.000	30.250
D	311.240	-50.000	30.550
E	277.280	-15.240	30.250
F	253.140	-15.240	10.250
G	176.140	-15.000	10.250
H	214.415	-15.000	7.450
J	216.115	-15.000	7.750
K	247.440	-51.518	7.750
L	249.140	-17.938	7.750
M	253.140	-15.240	10.550
N	272.780	-15.240	10.550
P	216.115	-34.410	0.000
R	248.115	-52.000	-1.450
S	248.115	-37.000	-7.750
T	307.510	-11.528	-7.750
U	307.115	-17.138	-7.750
V	245.115	-52.137	-31.000
W	247.115	44.000	-31.000
X	248.215	44.000	-31.000
Y	311.215	36.700	-31.000
Z	311.115	-5.244	-31.000
AA	277.115	-54.842	+27.500
BB	EMERG	-31.700	-27.000
CC	249.00	53.563	+27.000
DD	249.00	53.564	-27.000

DETAIL II

DETAIL III

ITEM	QTY REQ'D PER ASSY	PART OR IDENTIFYING NO.	SOURCE CODE	NOMENCLATURE OR DESCRIPTION	MATERIAL	COMP SPEC	CONF. SPEC	STOCK SIZE (DIA)	PROCESS SYMBOL	FINISH NO.	UNIT WT	ZONE
1	HL70-5											
1	HL10V-5-4											
2	GR500A-4H											
4	AN960D416L			WASHER								
41	AN960D8L			WASHER								
17	AN960D8			WASHER								
2	NAS1132V4			BOLT								
17	NAS1132V3			BOLT								
13	NAS1132V2			BOLT								
12	NAS1132V1			BOLT								
4	NAS674V5			BOLT								
44	MS21043-08			NUT								
1	LDW280M10622-1			FITTING								
1	M10621-1											
1	M10620-2											
1	M10620-1											
2	M10619-1											
1	M10618-1											
1	LDW280M10616-1			FITTING								
2	-5			STRAP								
2	-3											
2	LDW280-10672-1			STRAP								
1	LDW280-10670-3			TUBE								
1	-17											
1	-15											
1	LDW280-10670-13			TUBE								
1	LDW280-28227-5			WELD ASSY								
1	LDW280-28227-3			WELD ASSY								
1	LDW280-28227-1			WELD ASSY								
-1	LDW280-28157-1		1ST	INSTALLATION								

			LEM	LDW280-28150	LEM6 (24)
					LEM5 (18)
					LEM4 (12)
					LEM3 (13)
					LEM2 (21)
					LEM1 (11)
			LEM	LDW280-28150	LTA-8 (10)
MODEL	NEXT ASSY	MODULE NO.	MODEL	NEXT ASSY	MODULE NO.
PART NO.		GRUMMAN USE ONLY	PART NO.	LDW280-28157-1	GRUMMAN USE ONLY

THIS DRAWING WILL BE REDRAWN ON A PRODUCTION FORMAT AT A LATER DATE.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES UNLESS SPECIFIED FRACTIONS ± 1/32 DECIMALS .XX ± .010 .XXX ± .005

DRAWN BY: CHECKED BY: LAYOUT BY: CHIEF LEADER: VEH DES DEPT: SYSTEMS: STRUCTURES: WEIGHTS: RELIABILITY:

GRUMMAN AIRCRAFT ENGRG CORP BETHPAGE, L. I., N. Y.

SHIELD ASSY & INSTALLATION-LEFT HAND-UPPER-ASCENT STAGE-MID SECTION-THERMAL

CONTRACT NO. NAS 9-1100 DOCUMENTATION TYPE II

CAGE IDENT NO.	SIZE	DWG NO.
26512	J	LDW280-28157

SCALE HALF LINE ITEM 1 SHEET 1 - 2

THIS IS AN ORIGINAL DRAWING

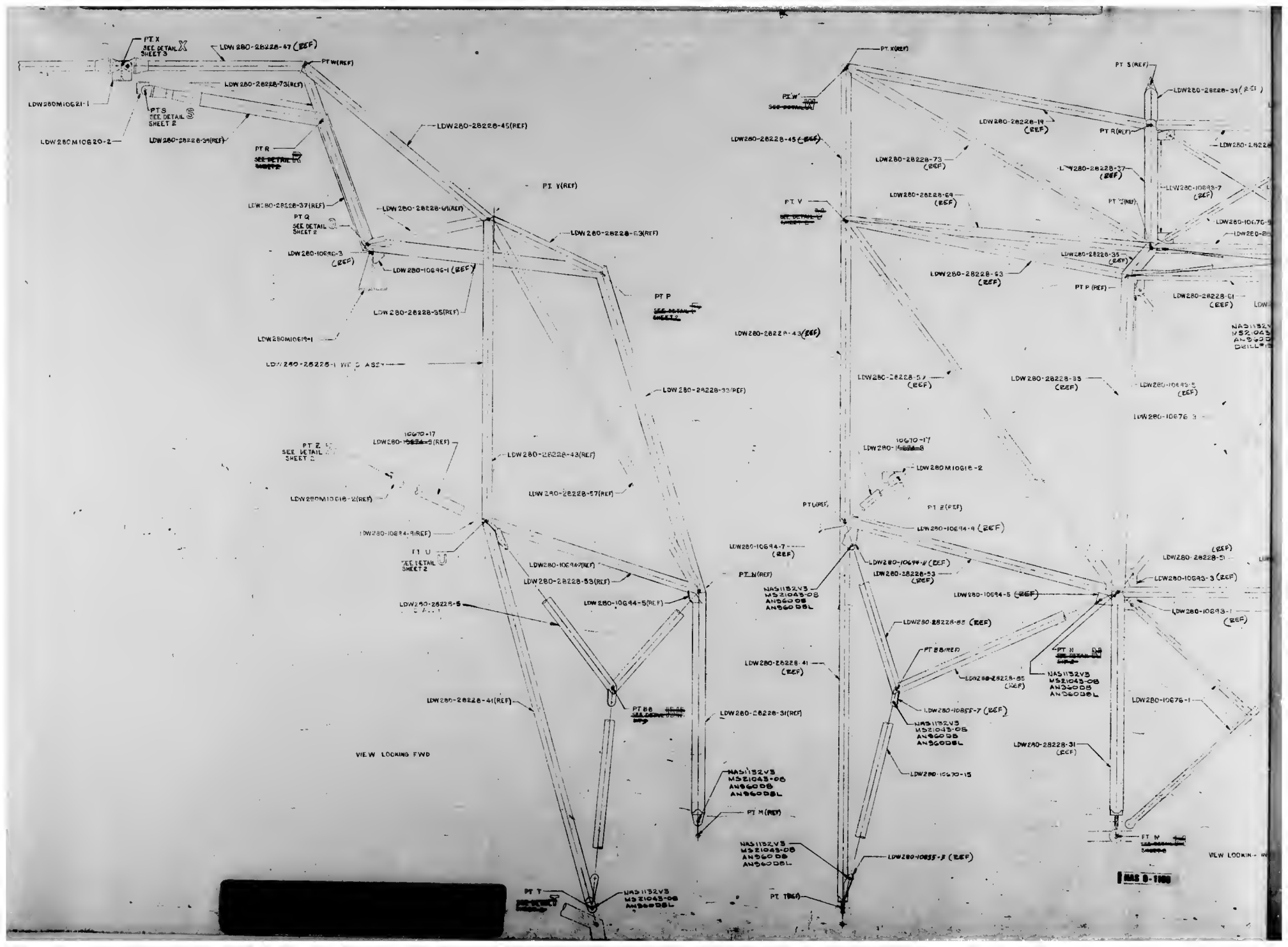
NAS 9-1100

LDW 280-28157

DWG SIZE IN A

PRINTED INTO HALF FULL SIZE SHEET AREA (11 IN BY 17 IN) ½ SIZE SHEET AREA (5½ BY 8½)

PRINT TRIM LINE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SEE DETAIL S SHEET 2
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SEE DETAIL SHEET 2
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PT V(REF)
LDW280-28228-37(REF)
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PT Q
SEE DETAIL SHEET 2
LDW280-28228-63(REF)
LDW280-10696-3 (REF)
LDW280-10696-1 (REF)
PT P
SEE DETAIL SHEET 2
LDW280-28228-35(REF)
LDW280M10619-1
LDW280-28228-1 WELD ASSY
LDW280-28228-33(REF)
PT Z
SEE DETAIL SHEET 2
10670-17
LDW280-10676-3(REF)
LDW280-28228-43(REF)
LDW280M10618-2(REF)
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VIEW LOOKING FWD
NAS1132V3 MS21043-08 AN960D8 AN960D8L
PT M(REF)
PT T
PT X(REF)
PT W
SEE DETAIL W
PT S(REF)
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LDW280-28228-19 (REF)
PT R(REF)
LDW280-28228-45 (REF)
LDW280-28228-73 (REF)
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PT V
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LDW280-28228-69 (REF)
PT Q(REF)
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LDW280-28228-35 (REF)
LDW280-28228-63 (REF)
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LDW280-28228-43 (REF)
LDW280-28228-57 (REF)
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PT Z(REF)
PT U(REF)
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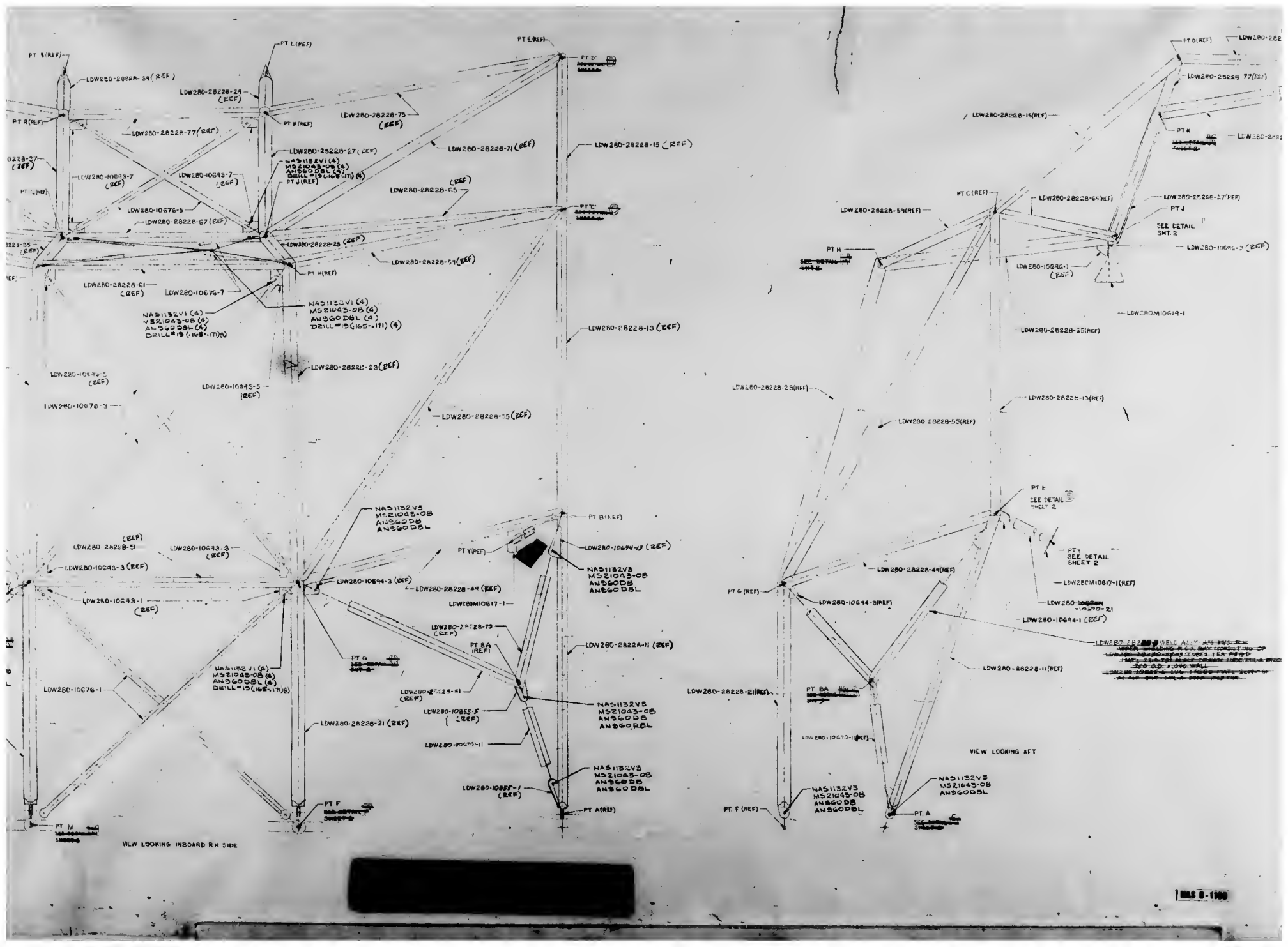
BAS 0-1100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AN960DBL (4)
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DRILL #19 (.166-.171) (4)
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PT G
LDW280-28228-11 (REF)
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MS21043-08 (4)
AN960DBL (4)
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LDW280-10855-1 (REF)
PT F
PT M
PT A(REF)
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MS21043-08
AN960D8
AN960DBL
PT B(REF)
PT Y(REF)
LDW280-10694-1 (REF)
NAS1132V3
MS21043-08
AN960D8
AN960DBL
NAS1132V3
MS21043-08
AN960D8
AN960RBL
VIEW LOOKING INBOARD RH SIDE
LDW280-28228-77(REF)
LDW280-28228-15(REF)
PT K
PT C(REF)
LDW280-28228-59(REF)
LDW280-28228-65(REF)
LDW280-28228-27(REF)
PT J
SEE DETAIL SHT. 2
PT H
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PT E
SEE DETAIL SHEET 2
PT Y
SEE DETAIL SHEET 2
LDW280-28228-49(REF)
LDW280M10617-1(REF)
PT G (REF)
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AN960DBL
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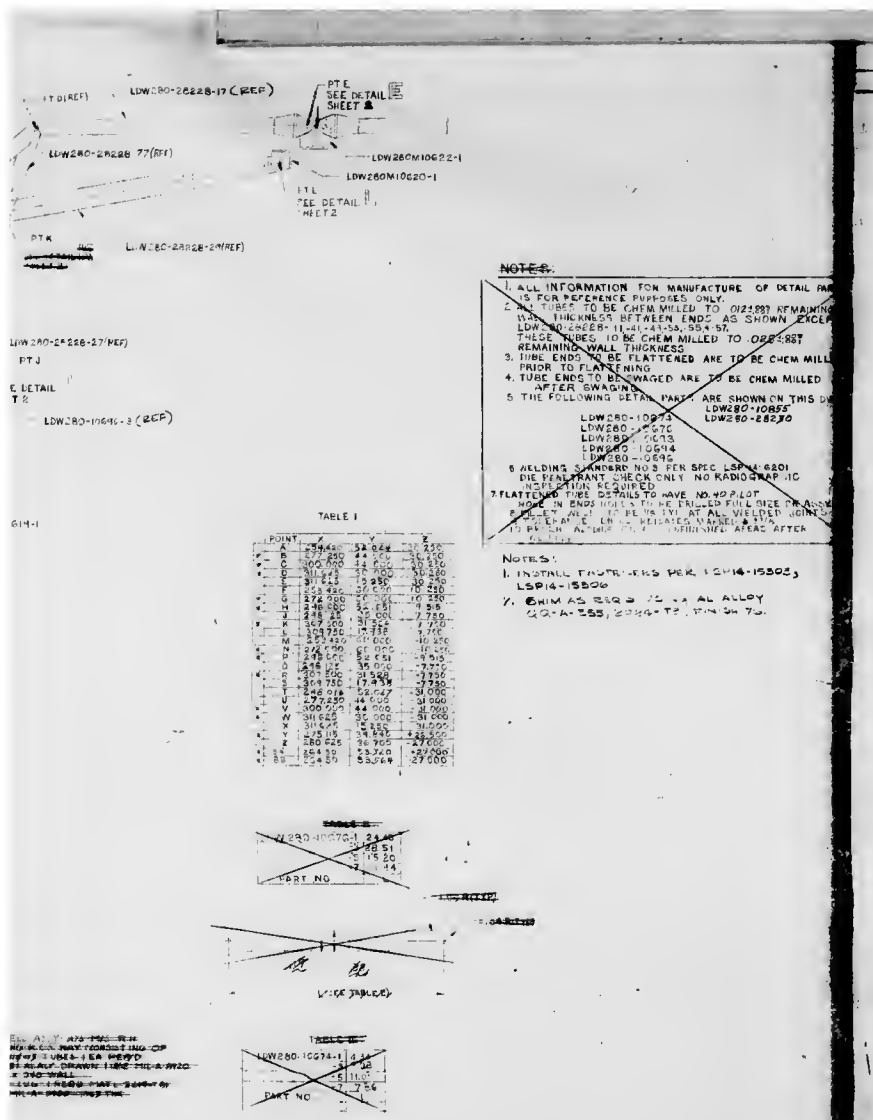
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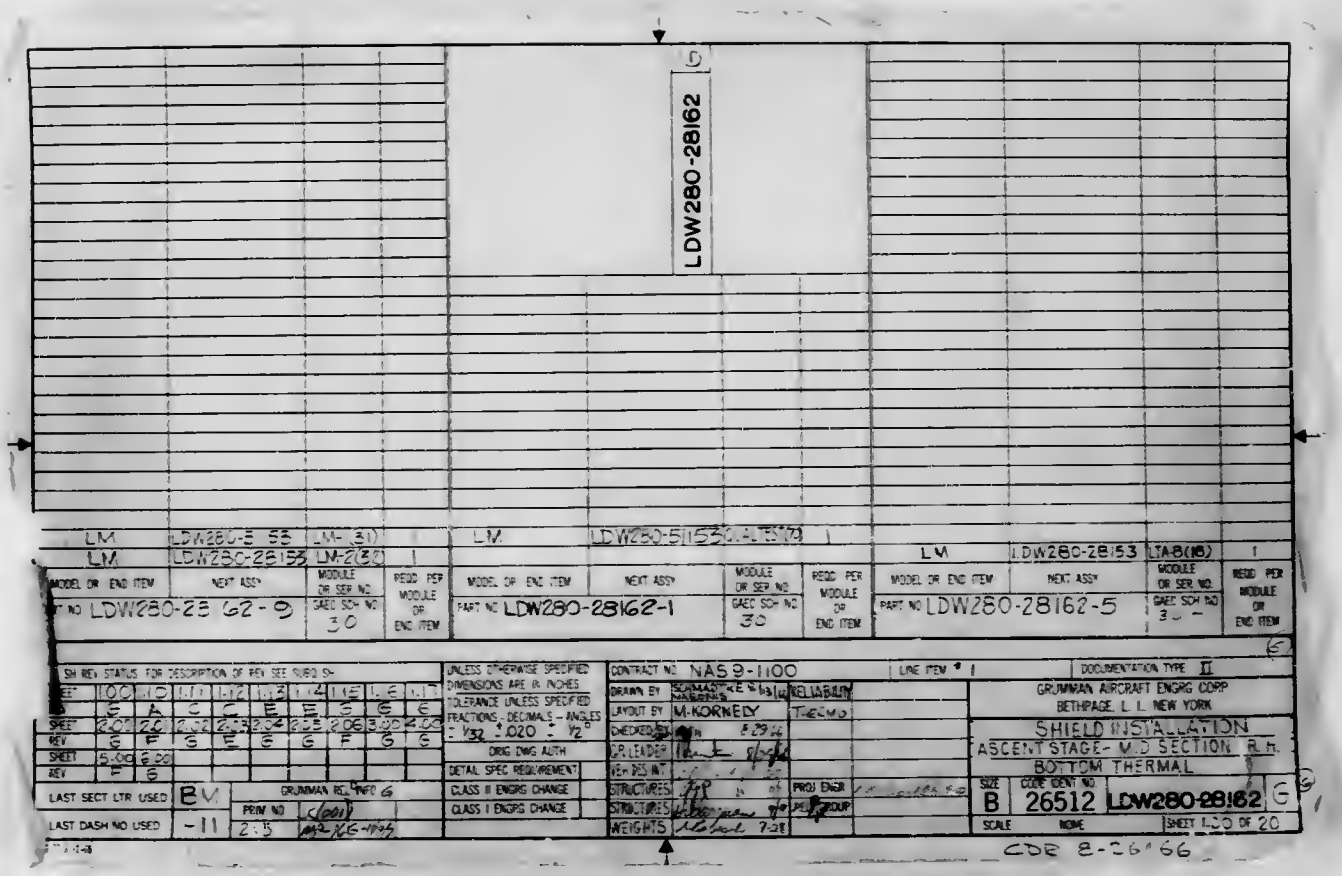
PT K
LDW280-28228-24 (REF)
LDW280-28228-27 (REF)
PT J
LDW280-10646-3 (REF)
TABLE I
NOTES:
1. ALL INFORMATION FOR MANUFACTURE OF DETAIL PAR
IS FOR REFERENCE PURPOSES ONLY.
2. ALL TUBES TO BE CHEM MILLED TO .012±.001 REMAINING
WALL THICKNESS BETWEEN ENDS AS SHOWN EXCEP
LDW280-28228-11,-41,-43-53,-55,-57.
THESE TUBES TO BE CHEM MILLED TO .022±.001
REMAINING WALL THICKNESS
3. TUBE ENDS TO BE FLATTENED ARE TO BE CHEM MILL
PRIOR TO FLATTENING
4. TUBE ENDS TO BE SWAGED ARE TO BE CHEM MILLED
AFTER SWAGING
5. THE FOLLOWING DETAIL PARTS ARE SHOWN ON THIS DR
LDW280-10855
LDW280-28230
LDW280-10613
LDW280-10614
LDW280-10695
6. WELDING STANDARD NO 3 PER SPEC LSP14-6201
DIE PENETRANT CHECK ONLY NO RADIOGRAPHIC
INSPECTION REQUIRED
7. FLATTENED TUBE DETAILS TO HAVE NO. 42 DRILL
HOLE IN ENDS HOLES TO BE DRILLED FULL SIZE PRIOR
ASSEMBLY AND TO BE WITH AT ALL WELDED JOINTS
NOTES:
1. INSTALL FASTENERS PER LSP14-15305
LSP14-15306
2. SHIM AS REQ'D .12 MAX AL ALLOY
QQ-A-355, 2024-T3, THK OR T6.
LDW280-10674-1
PART NO
LDW280-28158-1
LDW280-28158
LDW280-28158
THIS DRAWING WILL BE REDRAWN ON A PRODUCTION FORMAT AT A LATER DATE
MAS 9-1100
SHIELD ASSY & INSTALLATION-RIGHT HAND-UPPER-ASCENT STAGE
MID SECTION-THERMAL
26512 J LDW280-28158


LDW280-28162
LM LDW280-E 53 LM-(31)
LM LDW280-28153 LM-2(30)
MODEL OR END ITEM
NEXT ASSY
MODULE OR SER NO
GAEC SCH NO
REQD PER MODULE OR END ITEM
PART NO LDW280-28162-9
30
LM LDW280-5115 [illegible]
PART NO LDW280-28162-1
30
LM LDW280-28153 LTA-B(16)
PART NO LDW280-28162-5
SH REV STATUS FOR DESCRIPTION OF REV SEE SHEET 9
SHEET 100 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7
REV E A C E E S G E
SHEET 2.01 2.0 2.02 2.03 2.04 2.05 2.06 3.00 2.00
REV E F G E S G F G G
SHEET 5.00 6.00
REV F G
LAST SECT LTR USED B
LAST DASH NO USED -11
GRUMMAN REL INFO G
PRIM NO (001)
2.5
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCE UNLESS SPECIFIED
FRACTIONS, DECIMALS - ANGLES
± 1/32 ± .020 ± 1/2°
DRIG DWG AUTH
DETAIL SPEC REQUIREMENT
CLASS II ENGRG CHANGE
CLASS I ENGRG CHANGE
CONTRACT NO NAS9-1100
LINE ITEM # 1
DOCUMENTATION TYPE II
DRAWN BY SCHMARCKE 8/63
LAYOUT BY M-KORNELY
CHECKED BY
GR LEADER
DES INT
STRUCTURES
STRUCTURES
WEIGHTS
RELIABILITY
THERMO
PROJ ENGR
GROUP
GRUMMAN AIRCRAFT ENGRG CORP
BETHPAGE, L. I. NEW YORK
SHIELD INSTALLATION
ASCENT STAGE - MID SECTION R.H.
BOTTOM THERMAL
SIZE B
CODE IDENT NO 26512
LDW280-28162
G
SCALE NONE
SHEET 1.00 OF 20
CDR 8-26-66

01

NAS 9-1100

GRUMMAN AIRCRAFT ENGINEERING CORP.
CODE IDENT NO. 26512
ENGINEERING ORDER

ENG 33.1 REV 3-65

B

DWG. NO. LDW280-28102 | ED NO. H1
CONTROL INFO NO. LM-5-17641

IN FLD & B/M (ON-9)
LDW280M11299-11 (4/8) LDW280M11299-13

RELEASED BY LIAISON

DETAIL SPEC REQ	CL II ENGRG CHG	✓	CL I ENGRG CHG	

REASON FOR ED: LONGER TAB ON FITTING REQ'D TO PICK UP CAGE TUBE

DESCRIPTION OF ED: IN FLD & B/M (ON-9) LDW280M11299-13 (WAS) LDW280M11299-11

(5)

BASIC ED RELEASE

MODEL	EFFECTIVITY: PROCURING ACTIVITY NO.	EFFECTIVITY: BASIC UNIT NO.	EFFECTIVITY: SUB CONTR UNIT NO.	DRAWING CHANGE REQ'D: REVISE DWG	DRAWING CHANGE REQ'D: RECORD ED	DISPOSITION OF PARTS: REWORK	DISPOSITION OF PARTS: SCRAP	APPROVED BY	DATE							
LM		LM2(32)				✓			12-15-67	VDI						

PRIORITY	DRAWING TITLE	DRAWING NO.	ED NO.
C	SHLD INSTL, A/S, M/S RH BOTTOM THERMAL	LDW280-28102	H1

ISSUED BY LIAISON - MD Reyes x86755 SECTION VDI/F. DeRespinis GROUP NO. 335 PL 25

01

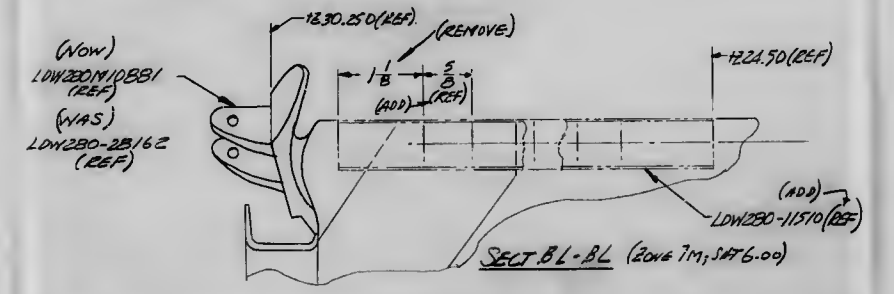
NAS 9-1100

GRUMMAN AIRCRAFT ENGINEERING CORP.
CODE IDENT NO. 26512
ENGINEERING ORDER

DWG. NO. LDW2B0-28162 | EO NO. H2
CONTROL INFO NO. LDW2B0 B0921

ENG 32 1 REV 3-63

IN F/D & S/M ON -9 INST'L:
REMOVE LDW2B0-11510-17 STIFFENER(1)



DETAIL SPEC REQ | CL I ENGRG CHG | CL II ENGRG CHG

REASON FOR EO: STIFFENER IN QUESTION IS PART OF CABIN SHIELDING, AND SHOULD BE REFERENCED ONLY. (CDR LIST)

DESCRIPTION OF EO: ON -9 REMOVED LDW2B0-11510-17(1)

EO RELEASE: (5) 11-5-67

EFFECTIVITY				DRAWING CHANGE REQD	DISPOSITION OF PARTS	APPROVED BY								
MODEL	PROCURING ACTIVITY NO.	BASIC UNIT NO.	SUB CONTR UNIT NO.	REVISE DWG	RECORD EO	REWORK	SCRAP	DATE	SUPPORT	RELEASE GROUP	GROUP LEADER	STRESS GROUP	LIAISON ENGR'G	P.E./ ENGRG
LM		Not Reqd		✓		Not Reqd	—	11/6/67	VBZ		7.RR 11-7-67	OK 11-14-67		11/6/67

PRIORITY: E

DRAWING TITLE: 5/8, 1 1/8 SHIELD INSTALLATION - R.H. BOTTOM THERMAL

DRAWING NO: LDW2B0-28162

EO NO. H2

ISSUED BY: E.BRAE V7033 SECTION: Veh. Des. Int GROUP NO. 335 PL. 25

01

NAS 9-1100

GRUMMAN AIRCRAFT ENGINEERING CORP.
CODE IDENT NO. 26512
ENG 32 1 REV 3-65

ENGINEERING ORDER

DWG. NO.	NOTED		ED NO.
CONTROL INFO NO.	LM 52-0860		

ADD LDW280-28869-1-1 WAS -1
(-1-1 IS IDENT TO -1 EXCEPT AS NOTED) REMOVE LDW280P11082 -1 & -3 ASSY'S.

N/A FOR -1-1 - LDW280-28162 - LTA 8 EFF

IN MOD BLK

FOR -1 REMOVE LTA-8 REQMTS

CORRECTED E.O. NUMBER
FOR LDW 280-28869
B9 WAS B2 (AB-T 3-21-67)

N.H.A. DISCRIPTION
ON -1
LDW280-28869-1-1 WAS -1

✓ DWG NO LDW280-28869 — ED.NO B.9

✓ N/A DWG NO LDW280-28162 — EO NO H3

DETAIL SPEC REQ | CL II ENGRG CHG | CL I ENGRG CHG | ✓ LCD 20273 (52)

REASON FOR EO: COVER NOT REQ'D ON LTA 8

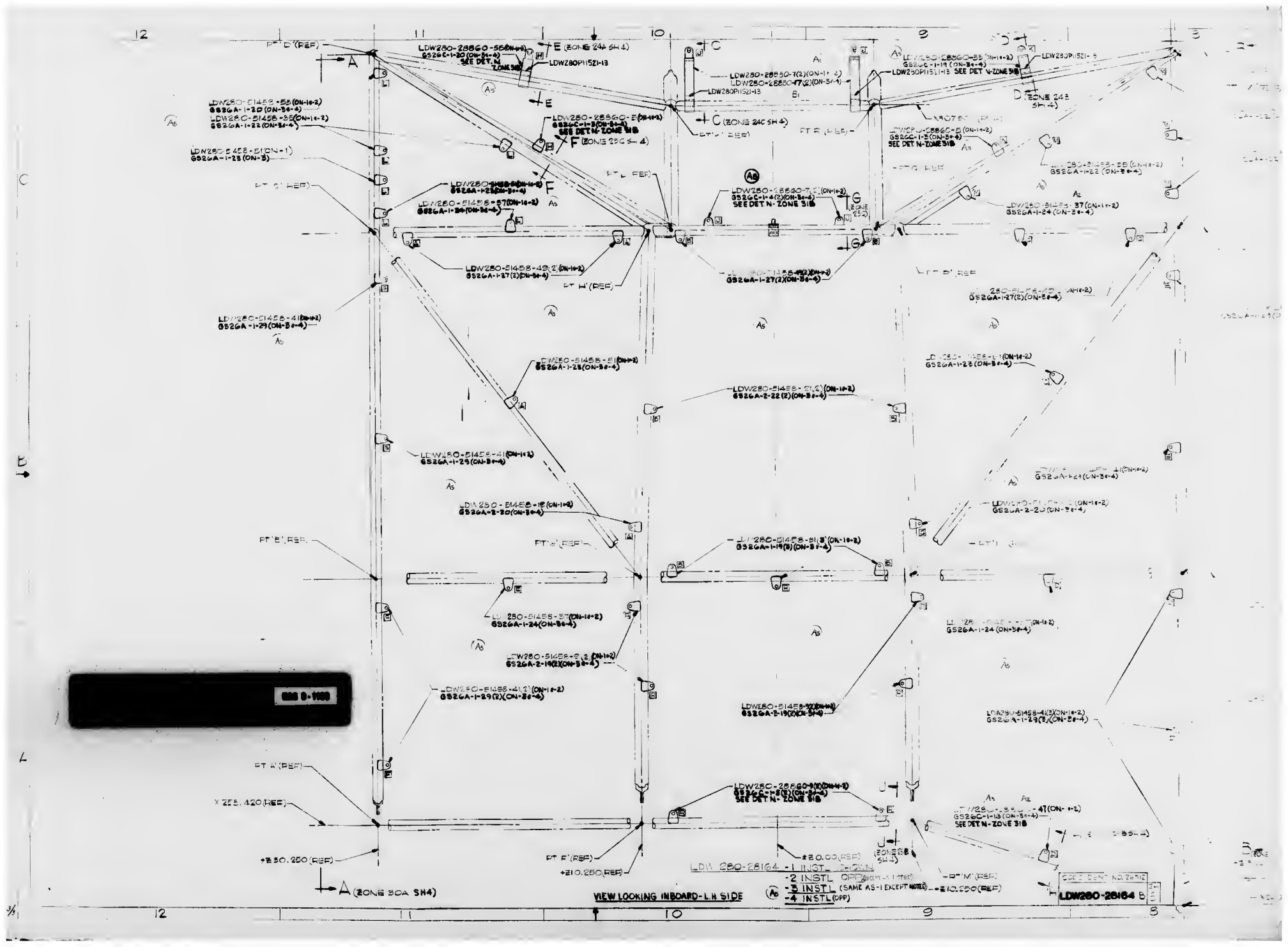
DESCRIPTION OF EO: ADDED LDW280-28869-1-1 WAS -1 FOR LTA 8 REQMTS

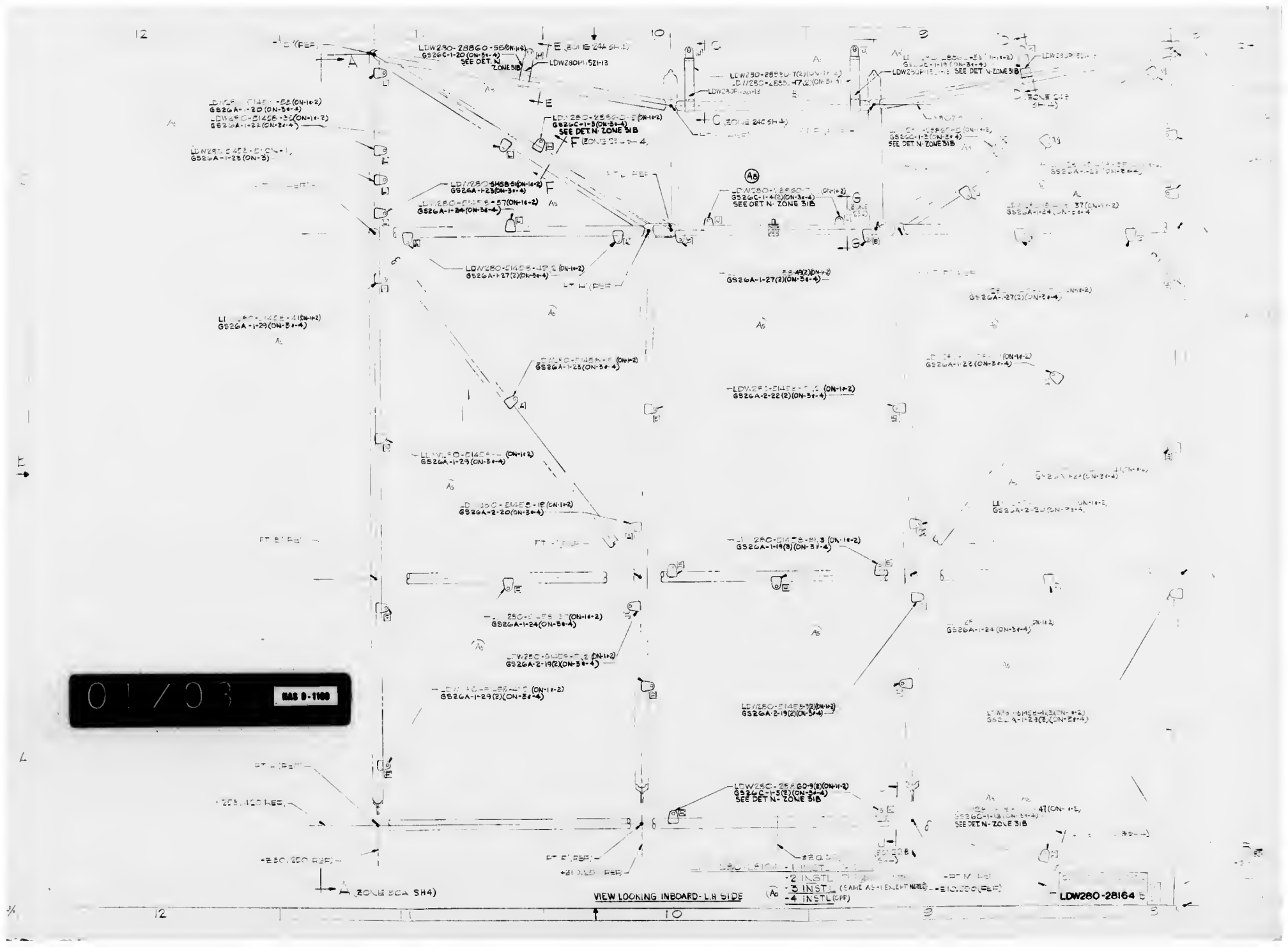
DATE EO RELEASED: 3/24/68

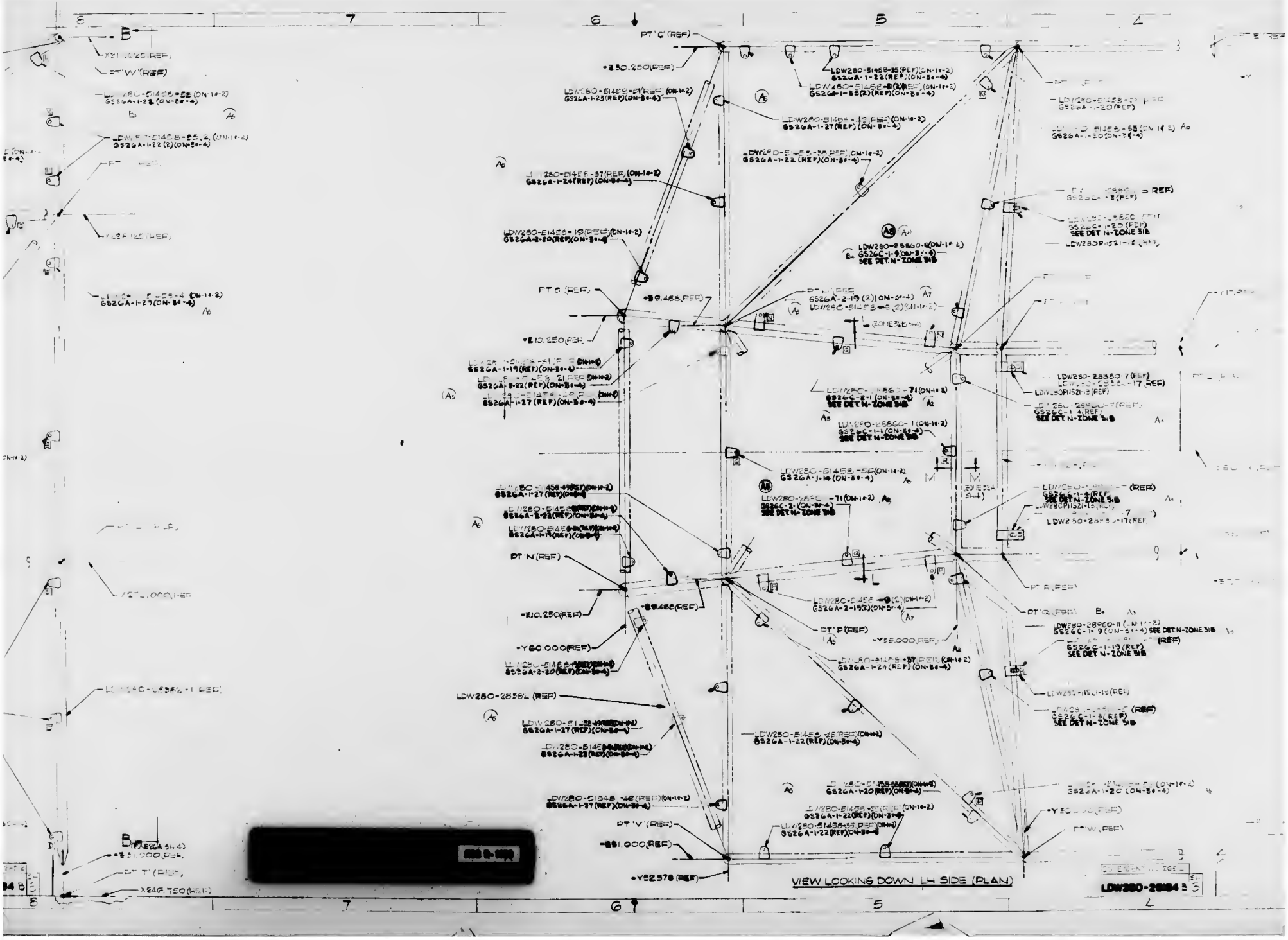
MODEL	EFFECTIVITY: PROCURING ACTIVITY NO.	GAEC UNIT NO	SUB CONTR UNIT NO.	DRAWING CHANGE REQ'D: REVISE DWG	RECORD EO	DISPOSITION OF PARTS: REWORK	SCRAP	APPROVED BY	DATE	SUPPORT	RELIAB GROUP	GROUP LEADER	STRESS GROUP	LIAISON ENGRS	PROJ ENGRG	MGMT
LM		LTA 8 (18)		✓		✓		VDI	3-5-68			3-6-68	3-6-68		3-6-68	3/6/68

PRIORITY: C — DRAWING TITLE: — — DRAWING NO: NOTED — ED NO

ISSUED BY DON RAGAS X4606 SECTION M.S.C PROJ. ENGR GROUP NO. 827 PL 52


LDW280-28860-5(ON-1+2)
GS26C-1-19(ON-3+4)
SEE DET N-ZONE 31B
LDW280P1152I-13
LDW280-28860-7(2)(ON-1+2)
LDW280-28860-7(2)(ON-3+4)
LDW280-28860-8(ON-1+2)
GS26C-1-8(ON-3+4)
SEE DET N-ZONE 31B
LDW280-28860-7(2)(ON-1+2)
GS26C-1-8(2)(ON-3+4)
SEE DET N-ZONE 31B
LDW280-51458-55(ON-1+2)
GS26A-1-20(ON-3+4)
LDW280-51458-55(ON-1+2)
GS26A-1-22(ON-3+4)
LDW280-51458-51(ON-1)
GS26A-1-23(ON-3)
LDW280-51458-37(ON-1+2)
GS26A-1-24(ON-3+4)
LDW280-51458-49(2)(ON-1+2)
GS26A-1-27(2)(ON-3+4)
LDW280-51458-41(ON-1+2)
GS26A-1-29(ON-3+4)
LDW280-51458-51(ON-1+2)
GS26A-1-23(ON-3+4)
LDW280-51458-21(2)(ON-1+2)
GS26A-2-22(2)(ON-3+4)
LDW280-51458-41(ON-1+2)
GS26A-1-29(ON-3+4)
LDW280-51458-18(ON-1+2)
GS26A-2-30(ON-3+4)
LDW280-51458-51(3)(ON-1+2)
GS26A-1-19(3)(ON-3+4)
LDW280-51458-37(ON-1+2)
GS26A-1-24(ON-3+4)
LDW280-51458-9(2)(ON-1+2)
GS26A-2-19(2)(ON-3+4)
LDW280-51458-41(2)(ON-1+2)
GS26A-1-29(2)(ON-3+4)
LDW280-51458-32(ON-1+2)
GS26A-2-19(3)(ON-3+4)
LDW280-51458-41(3)(ON-1+2)
GS26A-1-29(3)(ON-3+4)
LDW280-28860-9(2)(ON-1+2)
GS26C-1-8(2)(ON-3+4)
SEE DET N-ZONE 31B
LDW280-51458-47(ON-1+2)
GS26C-1-18(ON-3+4)
SEE DET N-ZONE 31B
PT 'D' (REF)
PT 'C' (REF)
PT 'L' REF
PT 'B' (REF)
PT 'H' (REF)
PT 'E' (REF)
PT 'J' (REF)
PT 'M' (REF)
PT 'F' (REF)
X 258.420 (REF)
+E30.250 (REF)
+Z10.250 (REF)
+Z0.00 (REF)
A (ZONE 30A SH4)
E (ZONE 24A SH4)
C (ZONE 24C SH4)
F (ZONE 23C SH4)
G (ZONE 23A SH4)
D (ZONE 24B SH4)
J (ZONE 28B SH4)
LDW 280-28164 -1 INSTL SHOWN
-2 INSTL OPP HAND (NOTED)
-3 INSTL (SAME AS -1 EXCEPT NOTED)
-4 INSTL (OPP)
VIEW LOOKING INBOARD - L.H. SIDE
LDW280-28164 B


VIEW LOOKING INBOARD - L.H. SIDE
LDW280-28164 E
01/03
NAS 8-1100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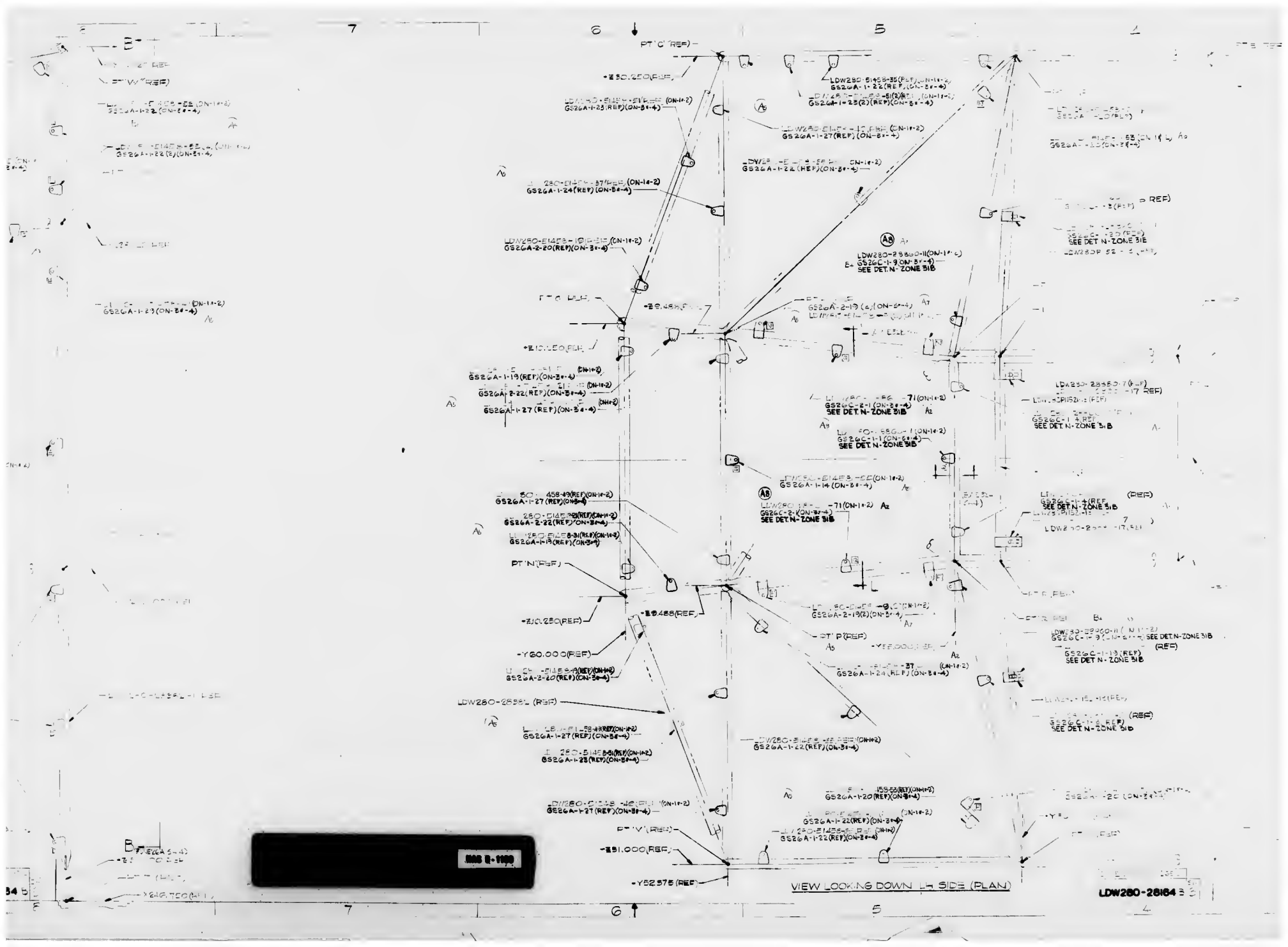
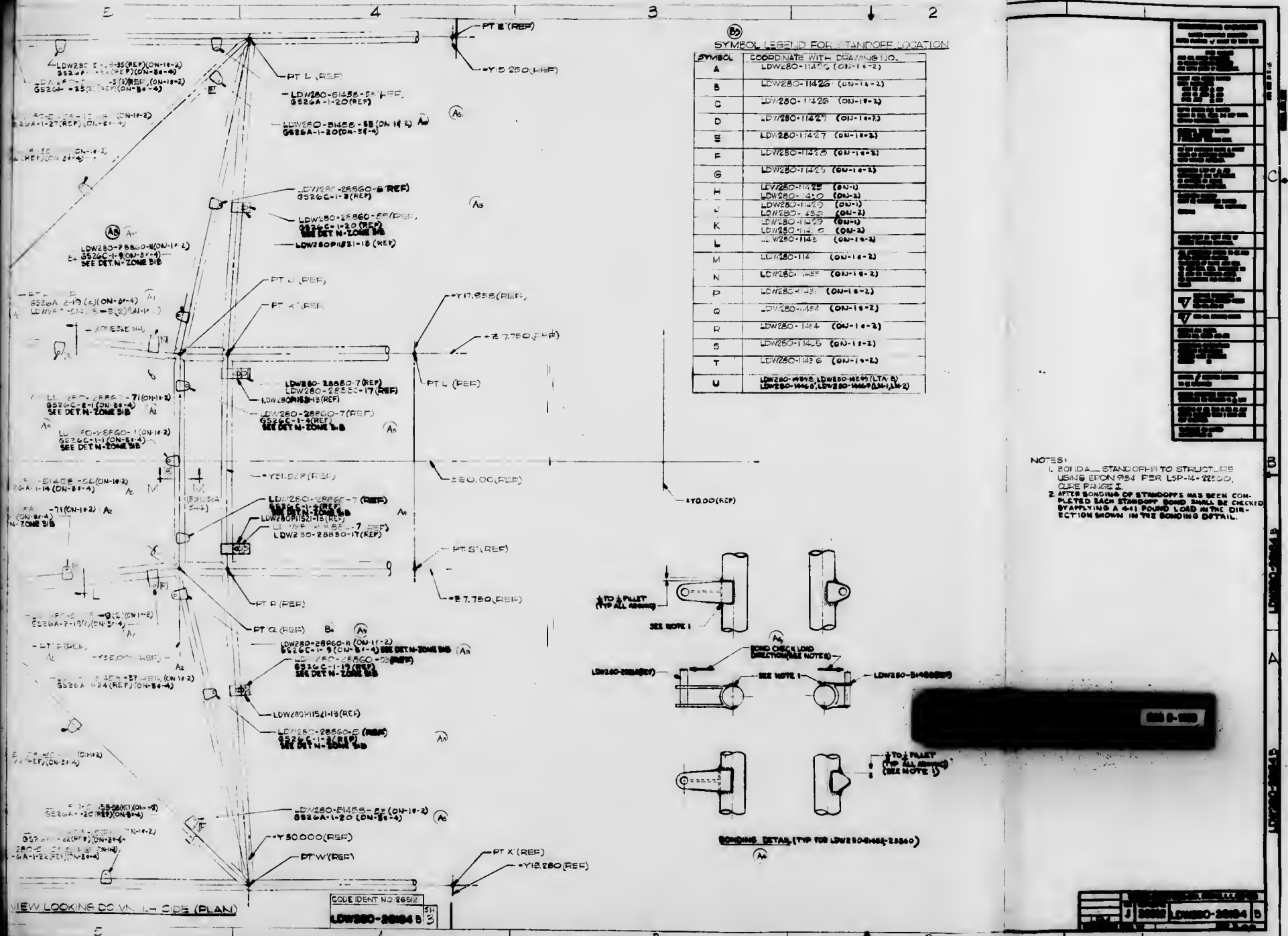
-Z50.250(REF)
PT 'G' (REF)
-Z39.488(REF)
-Z10.250(REF)
PT 'N'(REF)
-Z39.488(REF)
-Z10.250(REF)
-Y60.000(REF)
PT 'P'(REF)
-Y58.000(REF)
PT 'Q' (REF)
PT 'R' (REF)
PT 'V'(REF)
-Z81.000(REF)
-Y52.578 (REF)
PT 'W'(REF)
PT 'T' (REF)
X24G.750(REF)
VIEW LOOKING DOWN LH SIDE (PLAN)
LDW280-28984 B


PT 'C' (REF)
PT 'N' (REF)
PT 'P' (REF)
PT 'V' (REF)
-Z50.250(REF)
-Z10.250(REF)
-Y60.000(REF)
-Z51.000(REF)
-Y52.575(REF)
LDW280-28861 (REF)
LDW280-28860-11(ON-14-2)
GS26C-1-9(ON-34-4)
SEE DET. N- ZONE 31B
GS26A-1-22(REF)(ON-34-4)
GS26A-1-27(REF)(ON-34-4)
GS26A-1-24(REF)(ON-34-4)
GS26A-2-20(REF)(ON-34-4)
GS26A-2-19(2)(ON-34-4)
GS26A-1-14(ON-34-4)
GS26C-2-1(ON-34-4)
GS26C-1-1(ON-34-4)
GS26C-1-13(REF)
GS26A-1-20(REF)(ON-34-4)
VIEW LOOKING DOWN LH SIDE (PLAN)
LDW280-28864 B



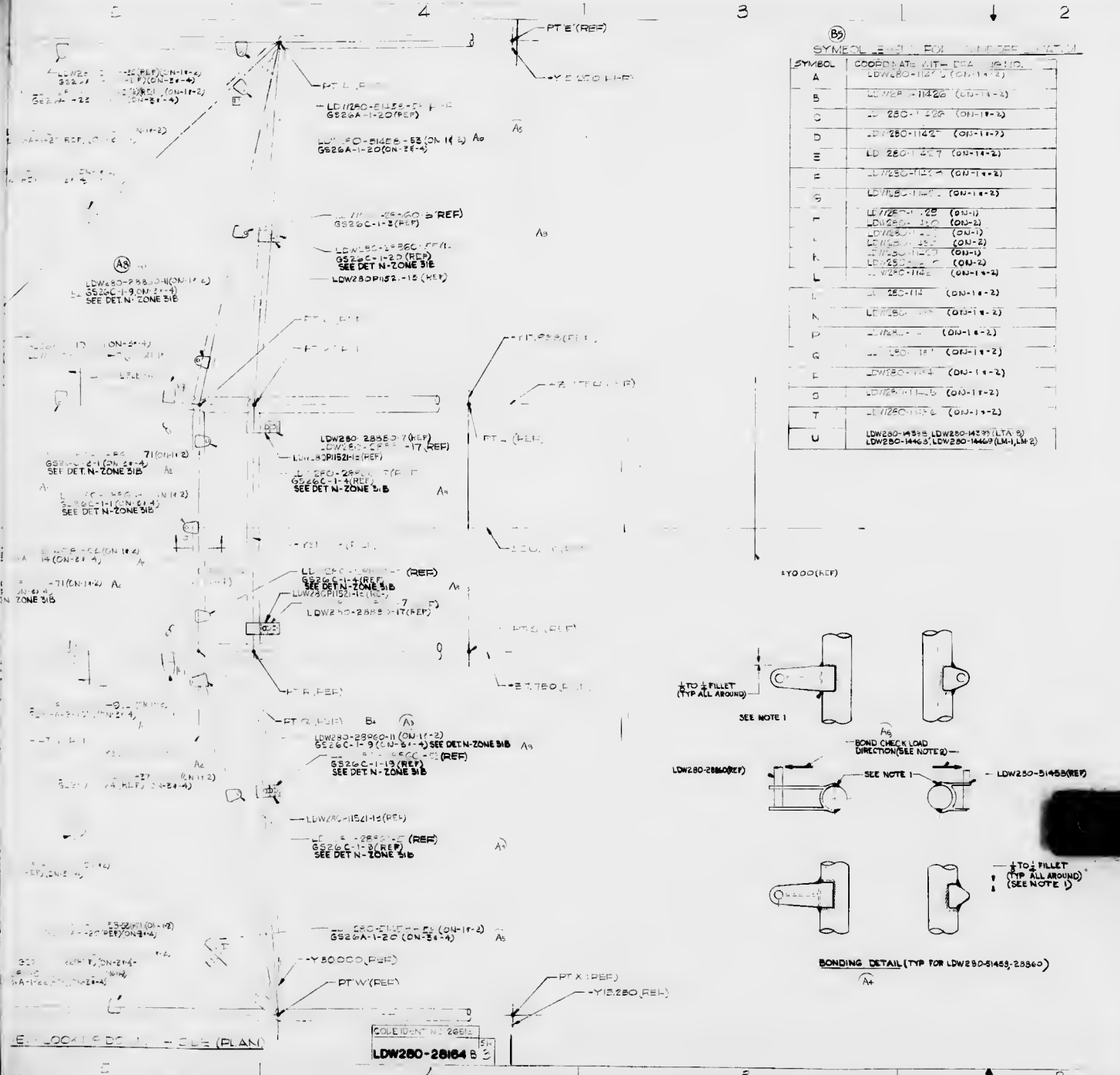
SYMBOL LEGEND FOR STANDOFF LOCATION

SYMBOL	COORDINATE WITH DRAWING NO.
A	LDW280-11425 (ON-1&-2)
B	LDW280-11426 (ON-1&-2)
C	LDW280-11426 (ON-1&-2)
D	LDW280-11427 (ON-1&-2)
E	LDW280-11427 (ON-1&-2)
F	LDW280-11428 (ON-1&-2)
G	LDW280-11429 (ON-1&-2)
H	LDW280-11425 (ON-1) LDW280-1142[illegible] (ON-2)
J	LDW280-11425 (ON-1) LDW280-1142[illegible] (ON-2)
K	LDW280-11429 (ON-1) LDW280-1142[illegible] (ON-2)
L	LDW280-11432 (ON-1&-2)
M	LDW280-1143[illegible] (ON-1&-2)
N	LDW280-1143[illegible] (ON-1&-2)
P	LDW280-1143[illegible] (ON-1&-2)
Q	LDW280-1143[illegible] (ON-1&-2)
R	LDW280-1143[illegible] (ON-1&-2)
S	LDW280-11435 (ON-1&-2)
T	LDW280-11436 (ON-1&-2)
U	LDW280-14895, LDW280-14896 (LTA 8) LDW280-14468, LDW280-14469 (LH-1, LH-2)

NOTES:
1. BOND ALL STANDOFFS TO STRUCTURE USING EPON 934 PER LSP-14-22500, CURE PAGE 1.
2. AFTER BONDING OF STANDOFFS HAS BEEN COMPLETED EACH STANDOFF BOND SHALL BE CHECKED BY APPLYING A 4-6 POUND LOAD IN THE DIRECTION SHOWN IN THE BONDING DETAIL.

[redacted]

LDW280-28184 B



B9

SYMBOL EQUIPMENT FOR INSPECTION

SYMBOL	COORDINATE KIT PART NO.
A	LDW280-11427 (ON-1 & -2)
B	LDW280-11426 (ON-1 & -2)
C	LDW280-11428 (ON-1 & -2)
D	LDW280-11427 (ON-1 & -2)
E	LDW280-11427 (ON-1 & -2)
F	LDW280-11428 (ON-1 & -2)
G	LDW280-11428 (ON-1 & -2)
H	LDW280-11428 (ON-1) LDW280-11430 (ON-2)
J	LDW280-11429 (ON-1) LDW280-11431 (ON-2)
K	LDW280-11429 (ON-1) LDW280-11431 (ON-2)
L	LDW280-11428 (ON-1 & -2)
M	LDW280-11430 (ON-1 & -2)
N	LDW280-11430 (ON-1 & -2)
P	LDW280-11429 (ON-1 & -2)
Q	LDW280-11430 (ON-1 & -2)
R	LDW280-11429 (ON-1 & -2)
S	LDW280-11429 (ON-1 & -2)
T	LDW280-11426 (ON-1 & -2)
U	LDW280-14338, LDW280-14339 (LTA-2) LDW280-14468, LDW280-14469 (LM-1, LM-2)

NOTES:

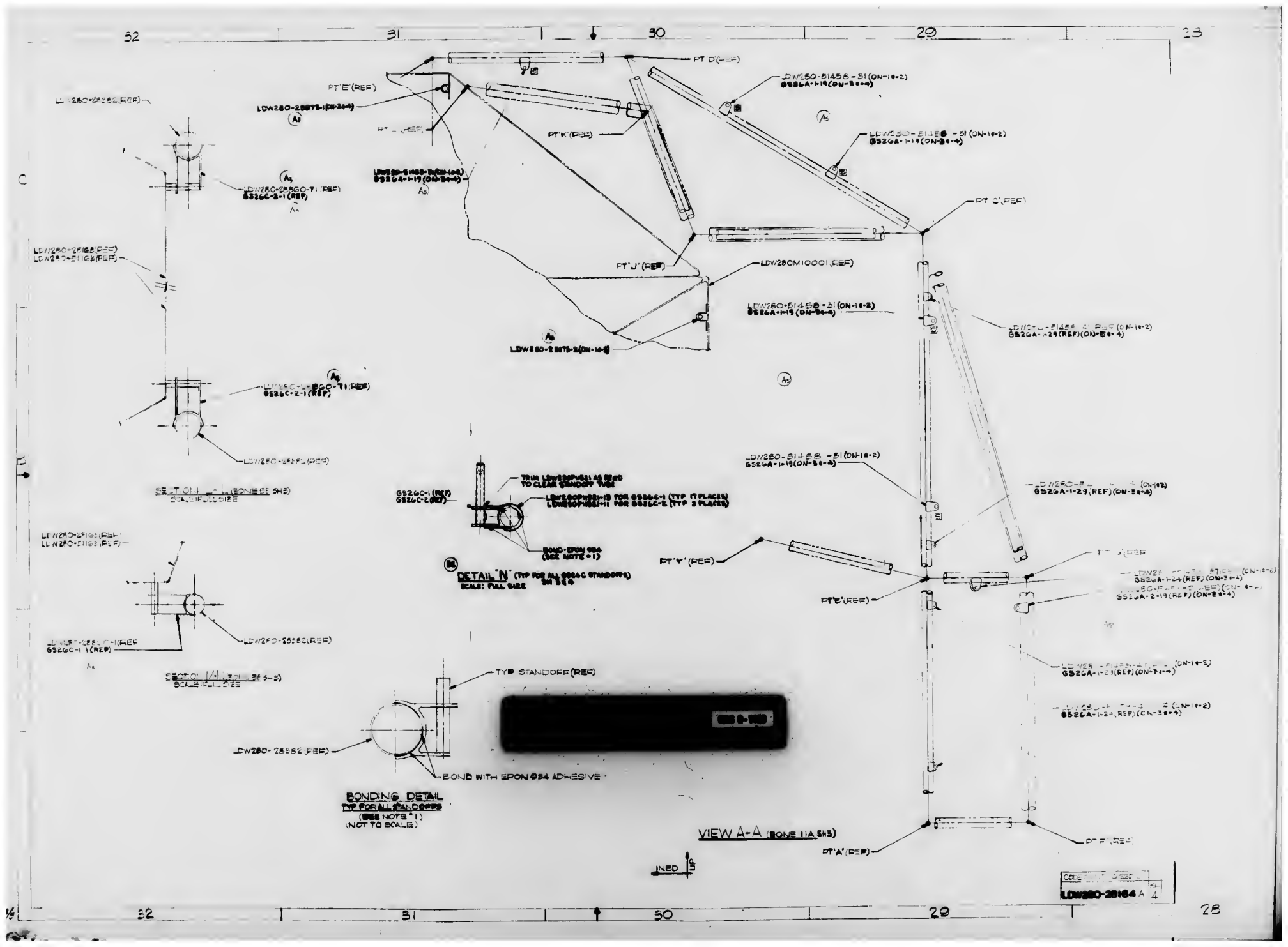
1. SOLDER ALL STANDOFFS TO STIFFENER USING ELON 984 PER LDP-12-202 SOLDERING SPEC.
2. AFTER BONDING OF STANDOFFS MAS BEEN COMPLETED EACH STANDOFF BOND SHALL BE CHECKED BY APPLYING A 4±1 POUND LOAD IN THE DIRECTION SHOWN IN THE BONDING DETAIL.

MAS 9-1100

LBM	J	26512	LDW280-28164 B

LDW280-28164 B

LDW280-28164 B


PT D (REF)
PT E (REF)
PT K (REF)
PT C (REF)
PT J (REF)
PT V (REF)
PT B (REF)
PT A (REF)
PT F (REF)
LDW280M10001 (REF)
LDW280-25882 (REF)
LDW280-25880-1 (REF)
LDW280-25880-2 (REF)
LDW280-25880-3 (REF)
LDW280-25880-4 (REF)
LDW280-25880-5 (REF)
LDW280-25880-6 (REF)
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LDW280-25880-8 (REF)
LDW280-25880-9 (REF)
LDW280-25880-10 (REF)
LDW280-25880-11 (REF)
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LDW280-25880-15 (REF)
LDW280-25880-16 (REF)
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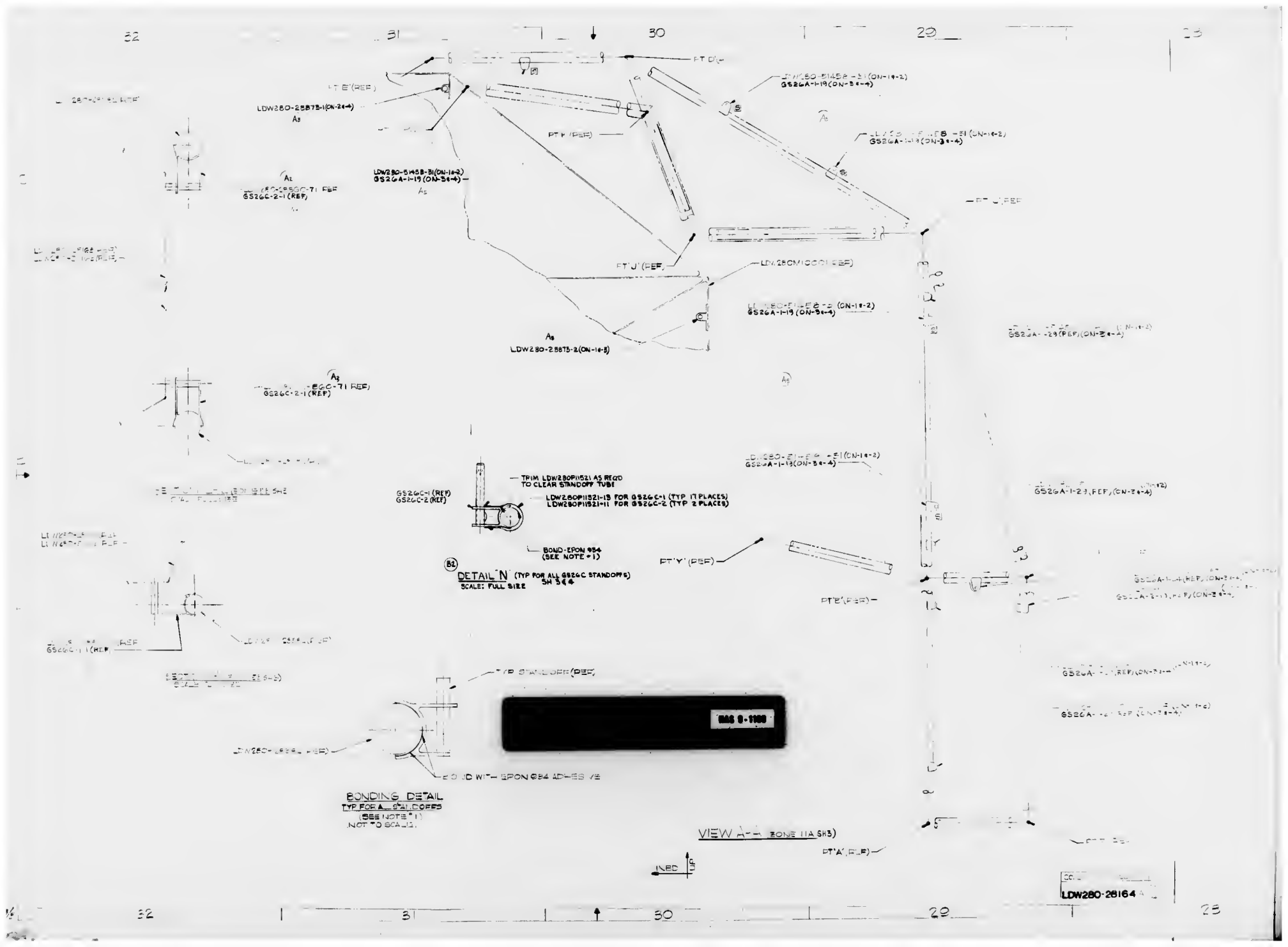
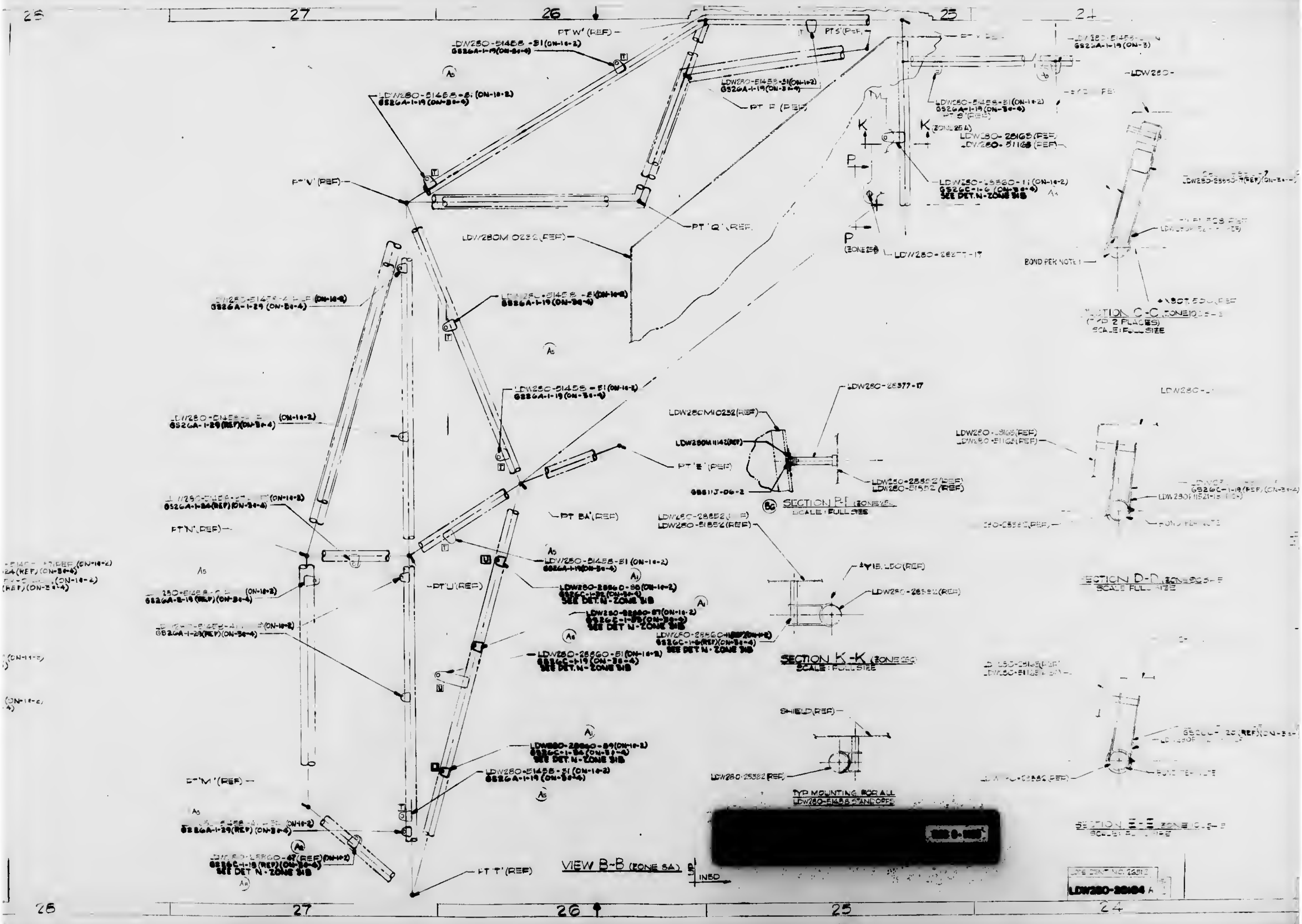
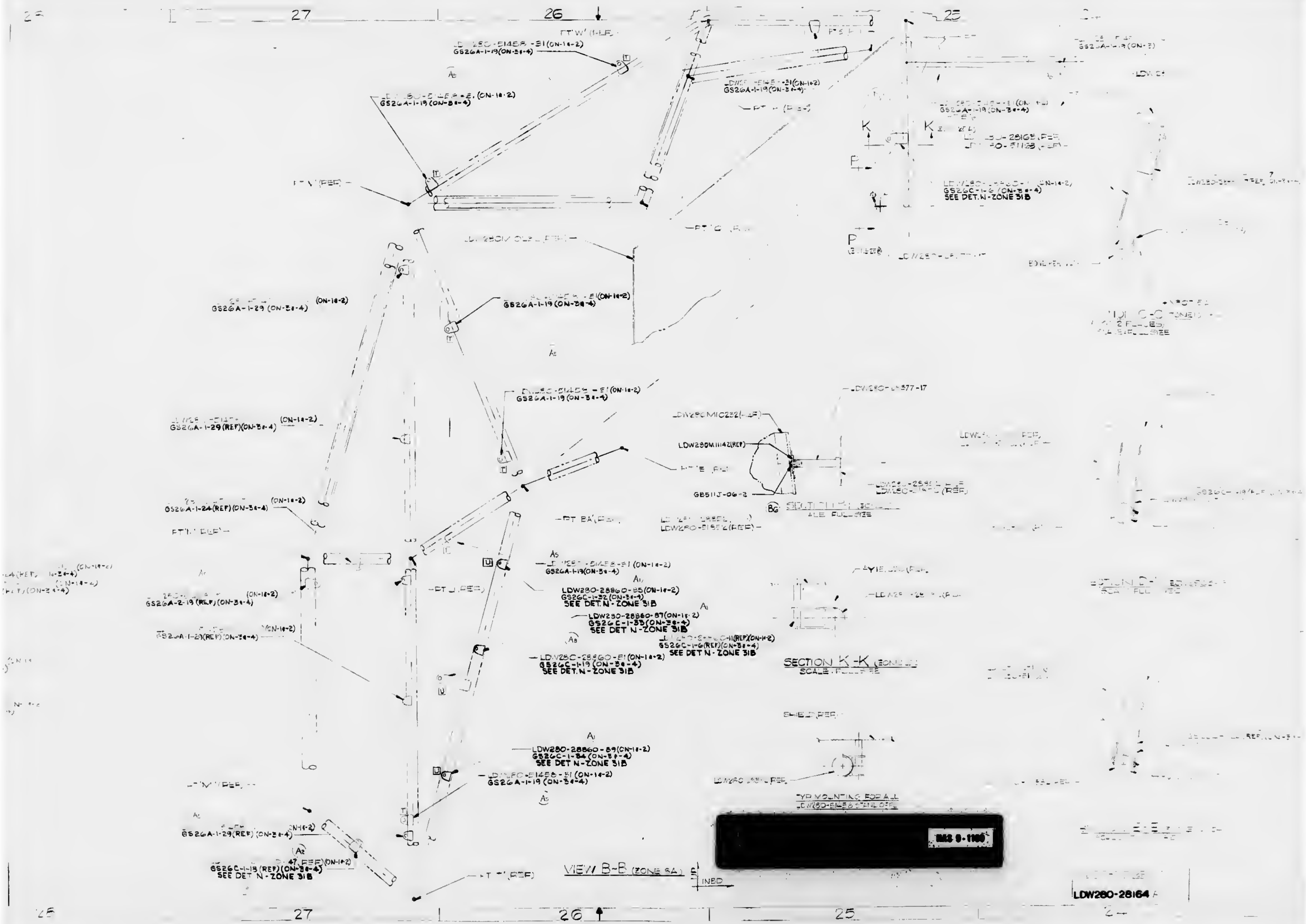
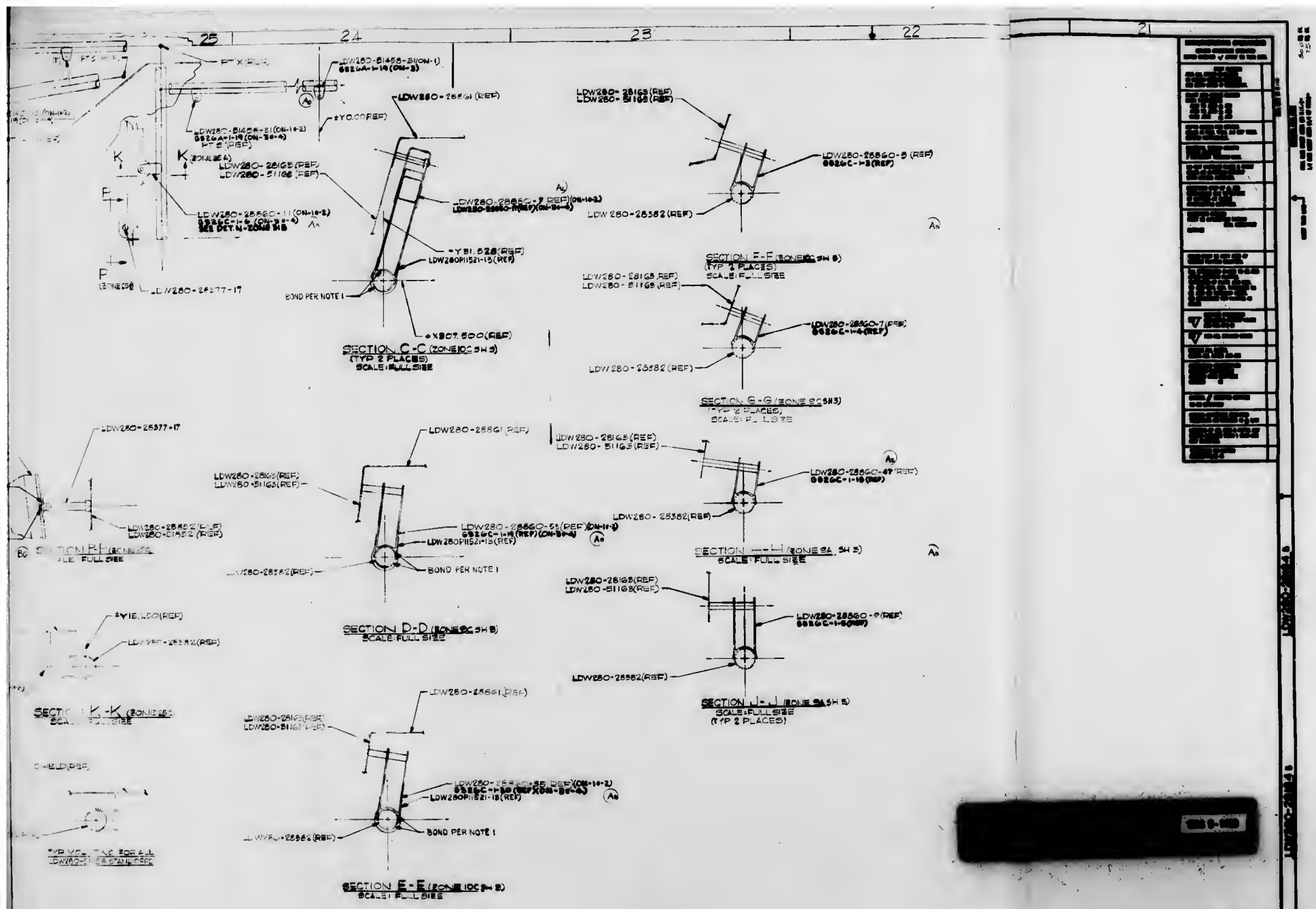

32
31
30
29
28
PT D (REF)
PT E (REF)
LDW280-25873-1(ON-24-4)
A3
PT F (REF)
LDW280-5145B-31(ON-18-2)
GS26A-1-19(ON-34-4)
A1
GS26C-2-1(REF)
A2
PT J (REF)
LDW280M1000(REF)
A3
LDW280-25873-2(ON-18-3)
TRIM LDW280P11521 AS REQ'D TO CLEAR STANDOFF TUBE
GS26C-1(REF)
GS26C-2(REF)
LDW280P11521-13 FOR GS26C-1 (TYP 17 PLACES)
LDW280P11521-11 FOR GS26C-2 (TYP 2 PLACES)
BOND-EPON 934 (SEE NOTE 1)
B2
DETAIL "N" (TYP FOR ALL GS26C STANDOFFS)
SCALE: FULL SIZE
SH 5&4
PT Y (REF)
PT B (REF)
GS26A-1-23 (REF) (ON-34-4)
TYP STANDOFF (REF)
MAG 8-1100
BONDING DETAIL
TYP FOR ALL SPAL DOFFS
(SEE NOTE "1")
NOT TO SCALE.
VIEW A-A ZONE 11A SH3
PT A (REF)
INBD
UP
LDW280-28164
32
31
30
29
28



27
26
25
PT 'W' (REF)
LDW280-51458-51 (ON-10-2)
GS26A-1-19 (ON-30-4)
PT 'V' (REF)
PT 'Q' (REF)
LDW280M 0232 (REF)
LDW280-28165 (REF)
LDW280-51168 (REF)
LDW280-28860-11 (ON-10-2)
GS26C-1-6 (ON-30-4)
SEE DET. N-ZONE 31B
LDW280-28277-17
BOND PER NOTE 1
SECTION C-C
(TYP 2 PLACES)
SCALE: FULL SIZE
GS26A-1-29 (ON-30-4)
LDW280-28377-17
LDW280M10232 (REF)
LDW280M1142 (REF)
PT 'E' (REF)
LDW280-28582 (REF)
LDW280-51582 (REF)
GS611J-06-2
SECTION P-P
SCALE: FULL SIZE
PT 'BA' (REF)
PT 'N' (REF)
LDW280-51458-51 (ON-10-2)
PT 'U' (REF)
LDW280-28860-88 (ON-10-2)
SEE DET. N-ZONE 31B
LDW280-28860-51 (ON-10-2)
LDW280-28852 (REF)
LDW280-51852 (REF)
LDW280-28582 (REF)
SECTION K-K
SCALE: FULL SIZE
SECTION D-D
SCALE: FULL SIZE
LDW280-28860-89 (ON-10-2)
SHIELD (REF)
LDW280-28582 (REF)
TYP MOUNTING FOR ALL
LDW280-51458 STANDOFFS
PT 'M' (REF)
PT 'T' (REF)
VIEW B-B (ZONE 5A)
INBD
SECTION E-E
[redacted]
LDW280-28184
25
27
26
25
24



27
26
25
GS26A-1-19 (ON-3e-4)
GS26A-1-29 (ON-3e-4)
GS26A-1-29 (REF) (ON-3e-4)
GS26A-1-24 (REF) (ON-3e-4)
GS26A-2-19 (REF) (ON-3e-4)
LDW280-28860-85 (ON-14-2)
SEE DET. N - ZONE 31B
LDW280-28860-87 (ON-14-2)
LDW280-28860-89 (ON-14-2)
GS26C-1-34 (ON-3e-4)
LDW280M11142 (REF)
GB511J-06-2
LDW280-28377-17
SECTION K-K
SCALE: FULL SIZE
TYP MOUNTING FOR ALL
VIEW B-B (ZONE 5A)
INBD
LDW280-28164


SECTION C-C (ZONE 10C SH 3)
(TYP 2 PLACES)
SCALE: FULL SIZE
SECTION E-E (ZONE 10C SH 3)
SCALE: FULL SIZE
SECTION F-F (ZONE 9C SH 3)
(TYP 2 PLACES)
SCALE: FULL SIZE
SECTION G-G (ZONE 9C SH 3)
(TYP 2 PLACES)
SCALE: FULL SIZE
SECTION H-H (ZONE 9A SH 3)
SCALE: FULL SIZE
SECTION J-J (ZONE 9A SH 3)
SCALE: FULL SIZE
(TYP 2 PLACES)
SECTION K-K (ZONE 9C)
SCALE: FULL SIZE
SECTION D-D (ZONE 9C SH 3)
SCALE: FULL SIZE
BOND PER NOTE 1
LDW280-28577-17
LDW280-28582 (REF)
LDW280-28583 (REF)
LDW280-28584 (REF)
LDW280-28585 (REF)
LDW280-28586 (REF)
LDW280-28587 (REF)
LDW280-28588 (REF)
LDW280-28589 (REF)
LDW280-28590 (REF)
LDW280-28591 (REF)
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LDW280-28596 (REF)
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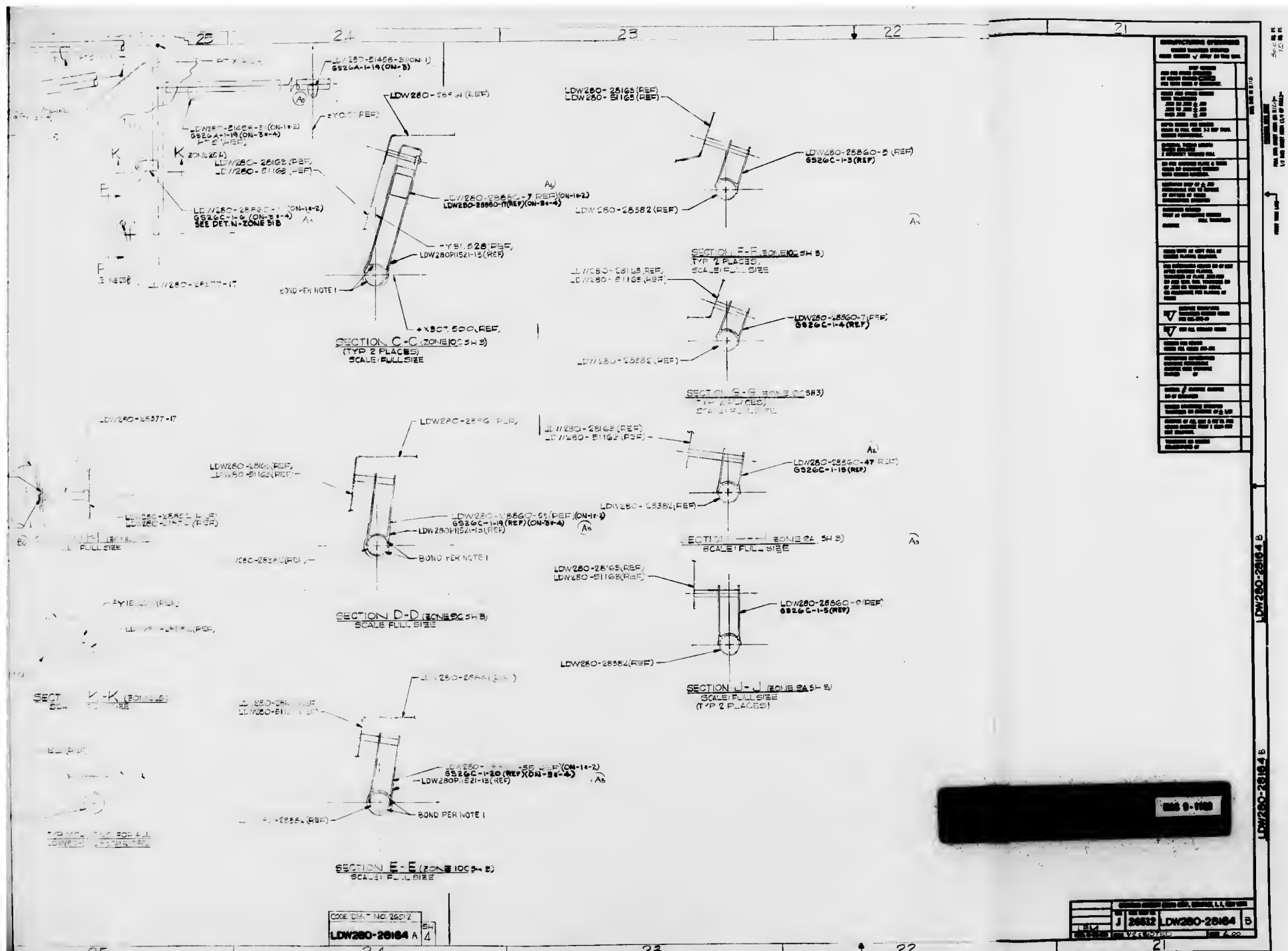
LDW280-28600 (REF)
LDW280-28601 (REF)

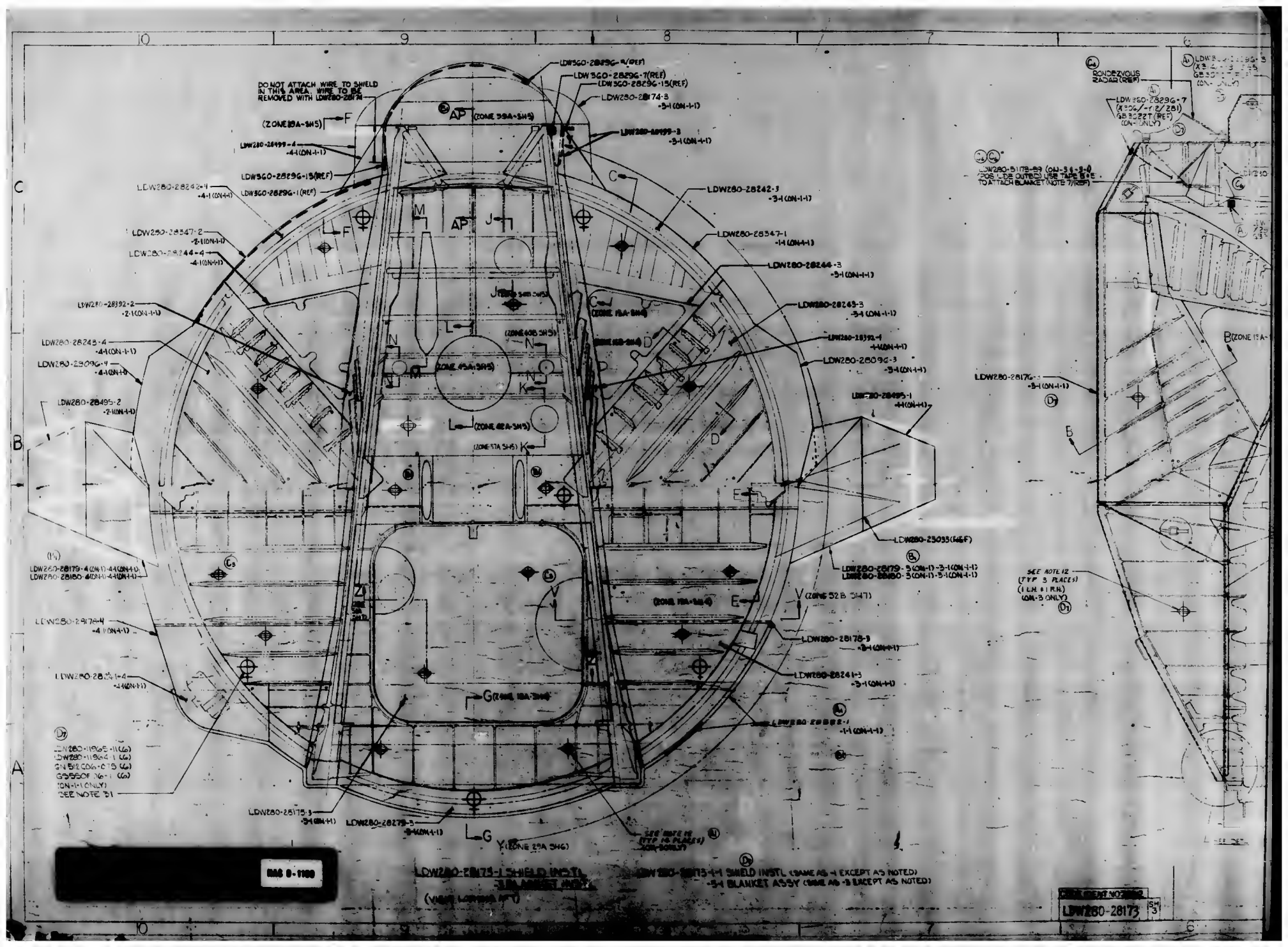


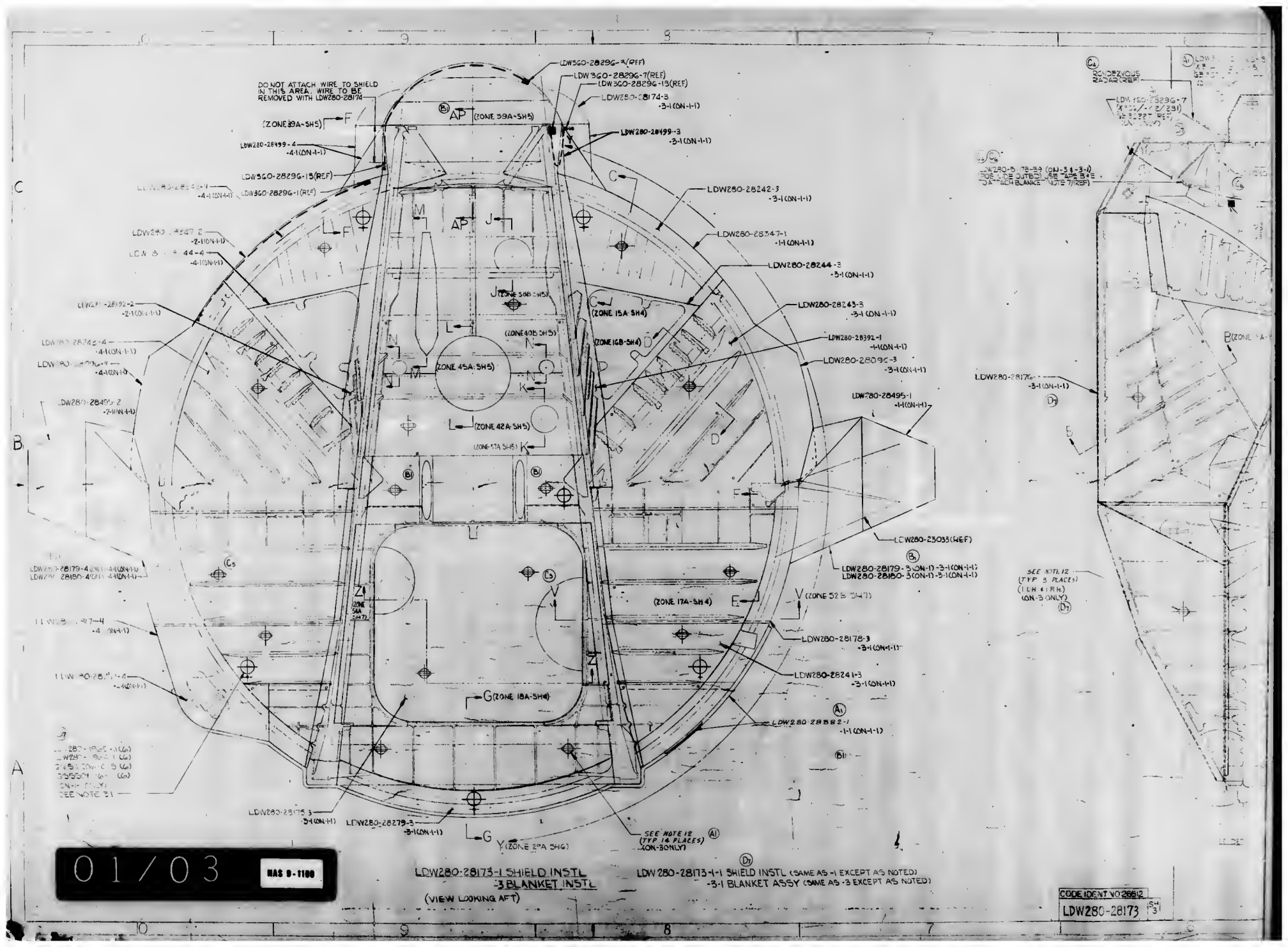
CODE IDENT NO. 26512
LDW280-28164 A SH 4

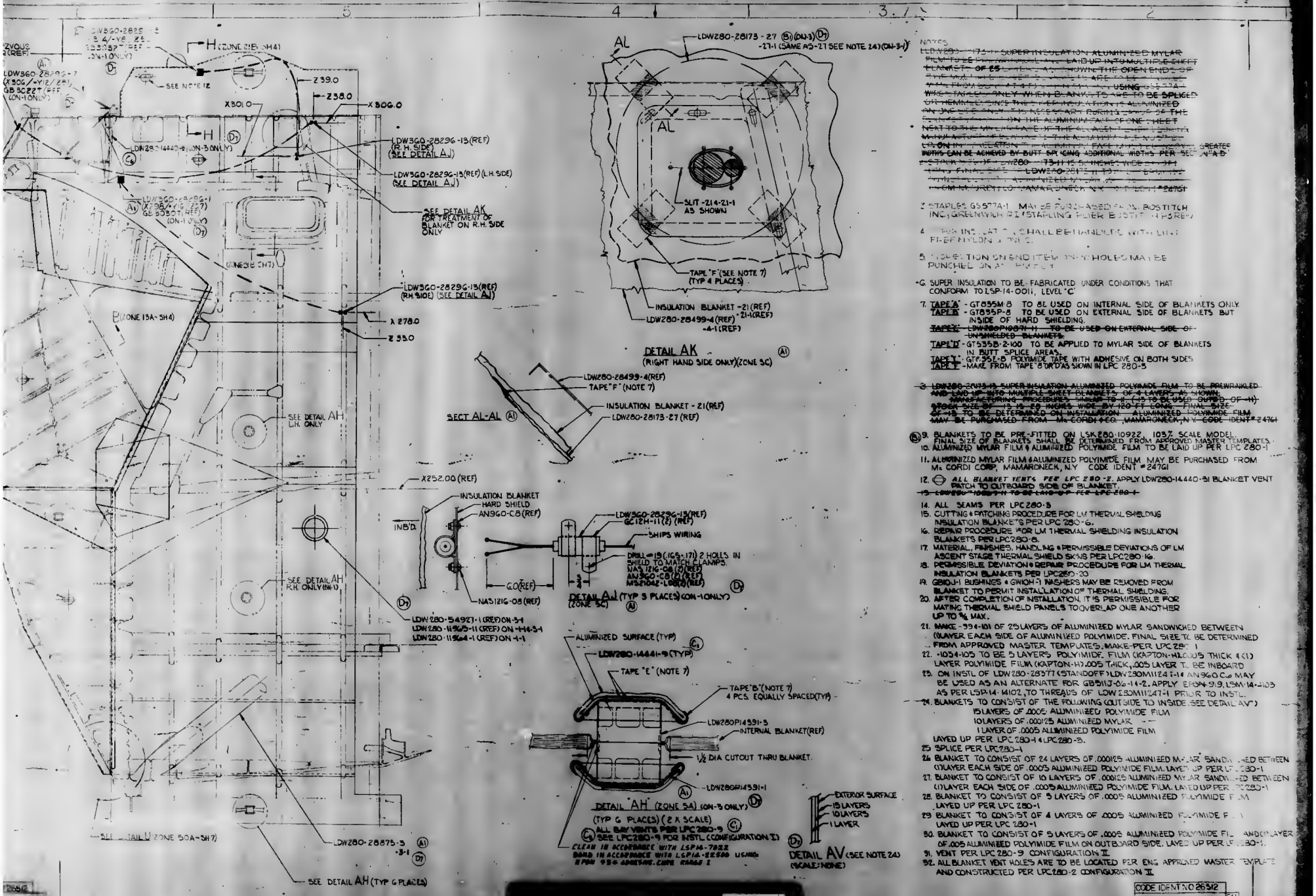
J 26512 LDW280-28164 B

LDW280-28164 B

LDW280-28164 B


DO NOT ATTACH WIRE TO SHIELD IN THIS AREA. WIRE TO BE REMOVED WITH LDW280-28174
LDW280-28242-4 -4-1(ON-1-1)
LDW280-28242-3 -3-1(ON-1-1)
LDW280-28244-4 -4-1(ON-1-1)
LDW280-28244-3 -3-1(ON-1-1)
LDW280-28392-2 -2-1(ON-1-1)
LDW280-28245-4 -4-1(ON-1-1)
LDW280-28096-4 -4-1(ON-1-1)
LDW280-28495-2 -2-1(ON-1-1)
LDW280-28263-3 -3-1(ON-1-1)
LDW280-28392-1 -1-1(ON-1-1)
LDW280-28096-3 -3-1(ON-1-1)
LDW280-28495-1 -1-1(ON-1-1)
LDW280-25035(REF)
LDW280-28179-4(ON-1)-4-1(ON-1-1)
LDW280-28180-4(ON-1)-4-1(ON-1-1)
LDW280-28178-4 -4-1(ON-1-1)
LDW280-28178-3 -3-1(ON-1-1)
LDW280-28241-3 -3-1(ON-1-1)
LDW280-28175-3 -3-1(ON-1-1)
LDW280-28179-3 -3-1(ON-1-1)
LDW280-28175-1 SHIELD INSTL
LDW280-28175-1-1 SHIELD INSTL (SAME AS -1 EXCEPT AS NOTED)
-3-1 BLANKET ASSY (SAME AS -3 EXCEPT AS NOTED)
LDW280-28173
SHEET 3


DO NOT ATTACH WIRE TO SHIELD IN THIS AREA. WIRE TO BE REMOVED WITH LDW280-28174
LDW360-28296-3(REF)
LDW360-28296-7(REF)
(LDW360-28296-13(REF)
LDW280-28174-3 -3-1(CON-1-1)
LDW280-28499-3 -3-1(CON-1-1)
(ZONE 39A-SH5)
LDW280-28499-4 -4-1(CON-1-1)
LDW360-28296-13(REF)
LDW360-28296-1(REF)
LDW280-28242-3 -3-1(CON-1-1)
LDW280-28347-1 -1-1(CON-1-1)
LDW280-28244-3 -3-1(CON-1-1)
LDW280-28243-3 -3-1(CON-1-1)
LDW280-28392-1 -1-1(CON-1-1)
LDW280-28096-3 -3-1(CON-1-1)
LDW280-28495-1 -1-1(CON-1-1)
LCW280-25033(REF)
LDW280-28179-3(CON-1)-3-1(CON-1-1)
LDW280-28180-3(CON-1)-3-1(CON-1-1)
LDW280-28178-3 -3-1(CON-1-1)
LDW280-28241-3 -3-1(CON-1-1)
LDW280-28882-1 -1-1(CON-1-1)
LDW280-28175-3 -3-1(CON-1)
LDW280-28279-3 -3-1(CON-1-1)
SEE NOTE 12 (TYP 14 PLACES) (CON-3 ONLY)
(ZONE 45A-SH5)
(ZONE 42A-SH5)
(ZONE 47A-SH5)
(ZONE 40B-SH5)
(ZONE 38B-SH5)
(ZONE 15A-SH4)
(ZONE 16B-SH4)
(ZONE 17A-SH4)
(ZONE 18A-SH4)
(ZONE 2PA-SH4)
(ZONE 52B-SH7)
(ZONE 50A-SH7)
SEE NOTE 12 (TYP 3 PLACES) (1 LH & 1 RH) (CON-3 ONLY)
LDW280-28173-1 SHIELD INSTL -3 BLANKET INSTL
(VIEW LOOKING AFT)
LDW280-28173-1-1 SHIELD INSTL (SAME AS -1 EXCEPT AS NOTED) -3-1 BLANKET ASSY (SAME AS -3 EXCEPT AS NOTED)
01/03
NAS 9-1100
CODE IDENT NO 26512
LDW280-28173
SH 3


H (ZONE 21B-SH4)
SEE NOTE 12
Z39.0
Z38.0
X300.0
X301.0
LDW360-28296-13(REF) (R.H. SIDE) (SEE DETAIL AJ)
LDW360-28296-13(REF) (L.H. SIDE) (SEE DETAIL AJ)
SEE DETAIL AK FOR TREATMENT OF BLANKET ON R.H. SIDE ONLY
(ZONE 21H-SH7)
LDW360-28296-13(REF) (R.H. SIDE) (SEE DETAIL AJ)
B (ZONE 15A-SH4)
X 278.0
Z 33.0
SEE DETAIL AH L.H. ONLY
SEE DETAIL AH R.H. ONLY (ON-1)
SEE DETAIL W (ZONE 30A-SH7)
LDW280-28675-3 -3-1
SEE DETAIL AH (TYP 6 PLACES)
AL
LDW280-28173-27 (ON-3) (ON-1) -21-1 (SAME AS -21 SEE NOTE 24) (ON-3)
SLIT -214-21-1 AS SHOWN
TAPE "F" (SEE NOTE 7) (TYP 4 PLACES)
INSULATION BLANKET -21 (REF)
LDW280-28499-4 (REF) -21-1 (REF) -4-1 (REF)
DETAIL AK (RIGHT HAND SIDE ONLY) (ZONE 5C)
LDW280-28499-4(REF)
TAPE "F" (NOTE 7)
INSULATION BLANKET - 21(REF)
LDW280-28173-27 (REF)
SECT AL-AL
X252.00 (REF)
INSULATION BLANKET
HARD SHIELD
AN960-C8 (REF)
INB'D
LDW360-28296-13(REF)
GC12H-11(2) (REF)
SHIPS WIRING
DRILL #19 (.166-.171) 2 HOLES IN SHIELD TO MATCH CLAMPS. NAS1216-08 (2) (REF) AN960-C8 (2) (REF) MS21042-L0810 (REF)
NAS1216-08 (REF)
C.O. (REF)
DETAIL AJ (TYP 3 PLACES) (ON-1 ONLY) (ZONE 5C)
LDW280-54927-1 (REF) ON-3-1
LDW280-11965-11 (REF) ON-1-14-3-1
LDW280-11964-1 (REF) ON-1-1
ALUMINIZED SURFACE (TYP)
LDW280-14441-9 (TYP)
TAPE "E" (NOTE 7)
TAPE "B" (NOTE 7) 4 PCS. EQUALLY SPACED (TYP)
LDW280P14391-3
INTERNAL BLANKET (REF)
1½ DIA CUTOUT THRU BLANKET.
LDW280P14391-1
DETAIL AH (ZONE 5A) (ON-3 ONLY) (TYP 6 PLACES) (2 X SCALE)
ALL BAY VENTS PER LPC 280-9 SEE LPC280-9 FOR INSTL (CONFIGURATION I)
CLEAN IN ACCORDANCE WITH LSP14-7032 BOND IN ACCORDANCE WITH LSP14-22500 USING #904 956 ADHESIVE. CURE STAGE I
EXTERIOR SURFACE
15 LAYERS
10 LAYERS
1 LAYER
DETAIL AV (SEE NOTE 24) (SCALE: NONE)

NOTES

~~LDW280-173-11 SUPER INSULATION ALUMINIZED MYLAR FILM TO BE FURNISHED AS LAID UP INTO MULTIPLE SHEET BLANKETS OF 25 LAYERS AS SHOWN THE OPEN ENDS OF THE BLANKETS ARE TO BE CLOSED FROM SECTION A-A (-21-1) ONLY USING~~ ~~WIRE TAPE (-) ONLY WHEN BLANKETS ARE TO BE SPLICED OR TERMINATED SINCE THE FIBERGLASS INSULATION IS ALUMINIZED ON ONE SIDE ONLY IT IS NECESSARY FOR THE~~ ~~INSULATION TO BE ON THE ALUMINUM SIDE OF ONE SHEET NEXT TO THE ALUMINUM SIDE OF THE ADJACENT SHEET TO MAINTAIN CONTINUITY OF THE ALUMINUM SURFACE ON WHICH INSULATION IS APPLIED. GREATER LENGTHS CAN BE ACHIEVED BY BUTT SPLICING ADDITIONAL WIDTHS PER SECTION A-A OF LDW280-73-11 IS 5 INCHES WIDE. THIS FINAL SIZE LDW280-28173-11 TO BE ENVELOPED IN ALUMINIZED MYLAR AS PREVIOUSLY DESCRIBED. ALUMINIZED MYLAR FILM MAY BE PURCHASED FROM M. CORDI CORP. MAMARONECK, N.Y. CODE IDENT #24761~~

2 STAPLES GS577A-1 MAY BE PURCHASED FROM BOSTITCH INC., GREENWICH R.I. STAPLING PLIER B JOSTITCH H-PR-27

4 ~~SUPER~~ INSULATION SHALL BE HANDLED WITH LINT FREE NYLON GLOVES

5 ~~PENETRATION ON END ITEM~~ ~~ONLY~~ HOLES MAY BE PUNCHED ON ASSEMBLY

6 SUPER INSULATION TO BE FABRICATED UNDER CONDITIONS THAT CONFORM TO LSP-14-0011, LEVEL "C"

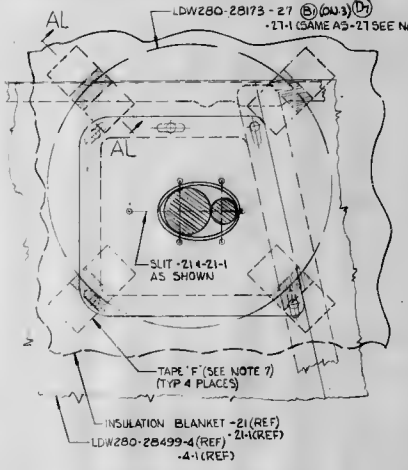
7. TAPE "A" - GT835M-8 TO BE USED ON INTERNAL SIDE OF BLANKETS ONLY.
TAPE "B" - GT835P-8 TO BE USED ON EXTERNAL SIDE OF BLANKETS BUT INSIDE OF HARD SHIELDING.
~~TAPE "C" - LDW280P10071-11 TO BE USED ON EXTERNAL SIDE OF UNSHIELDED BLANKETS.~~
TAPE "D" - GT535B-2-100 TO BE APPLIED TO MYLAR SIDE OF BLANKETS IN BUTT SPLICE AREAS.
TAPE "E" - GT-952-8 POLYIMIDE TAPE WITH ADHESIVE ON BOTH SIDES
TAPE "F" - MAKE FROM TAPE "B" OR "D" AS SHOWN IN LPC 280-5

~~8. LDW280-21173-13 SUPER INSULATION ALUMINIZED POLYIMIDE FILM TO BE PREWRINKLED AND LAID UP INTO MULTIPLE SHEET BLANKETS OF 4 LAYERS AS SHOWN. MANUFACTURING PROCEDURE SIMILAR TO # (-15 TO BE USED OUTBD OF -11) STOCK SIZE OF -13 IS 20 INCHES WIDE BY 120 FT LONG. FINAL SIZE OF -13 TO BE DETERMINED ON INSTALLATION. ALUMINIZED POLYIMIDE FILM MAY BE PURCHASED FROM M. CORDI & CO., MAMARONECK, N.Y. CODE IDENT # 24761~~

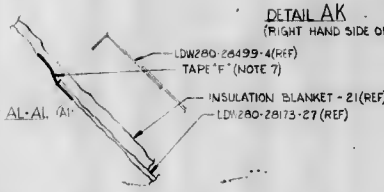
9. BLANKETS TO BE PRE-FITTED ON LSK280-10922, 100% SCALE MODEL. FINAL SIZE OF BLANKETS SHALL BE DETERMINED FROM APPROVED MASTER TEMPLATES.
10. ALUMINIZED MYLAR FILM & ALUMINIZED POLYIMIDE FILM TO BE LAID UP PER LPC 280-1
11. ALUMINIZED MYLAR FILM & ALUMINIZED POLYIMIDE FILM MAY BE PURCHASED FROM M. CORDI CORP, MAMARONECK, N.Y. CODE IDENT # 24761
12. ALL BLANKET VENTS PER LPC 280-2. APPLY LDW280-14440-31 BLANKET VENT PATCH TO OUTBOARD SIDE OF BLANKET.
~~13. LDW280-10071-11 TO BE LAID UP PER LPC 280-1~~
14. ALL SEAMS PER LPC 280-3
15. CUTTING & PATCHING PROCEDURE FOR LM THERMAL SHIELDING INSULATION BLANKETS PER LPC 280-6.
16. REPAIR PROCEDURE FOR LM THERMAL SHIELDING INSULATION BLANKETS PER LPC280-8.
17. MATERIAL, FINISHES, HANDLING & PERMISSIBLE DEVIATIONS OF LM ASCENT STAGE THERMAL SHIELD SKINS PER LPC280-16.
18. PERMISSIBLE DEVIATION & REPAIR PROCEDURE FOR LM THERMAL INSULATION BLANKETS PER LPC280-20
19. GB10J-1 BUSHINGS & GW10N-1 WASHERS MAY BE REMOVED FROM BLANKET TO PERMIT INSTALLATION OF THERMAL SHIELDING.
20. AFTER COMPLETION OF INSTALLATION, IT IS PERMISSIBLE FOR MATING THERMAL SHIELD PANELS TO OVERLAP ONE ANOTHER UP TO 3/8 MAX.
21. MAKE -994-101 OF 25 LAYERS OF ALUMINIZED MYLAR SANDWICHED BETWEEN (1) LAYER EACH SIDE OF ALUMINIZED POLYIMIDE. FINAL SIZE TO BE DETERMINED FROM APPROVED MASTER TEMPLATES. MAKE PER LPC 280-1
22. -1034-105 TO BE 5 LAYERS POLYIMIDE FILM (KAPTON-H) .005 THICK & (1) LAYER POLYIMIDE FILM (KAPTON-H) .005 THICK, .005 LAYER TO BE INBOARD
23. ON INSTL OF LDW280-28377 (STANDOFF) LDW280M11247-1 & AN960C10 MAY BE USED AS AN ALTERNATE FOR GB511J-6-14-2. APPLY EF0N4-9.9, LSM-14-2103 AS PER LSP-14-14102, TO THREADS OF LDW280M11247-1 PRIOR TO INSTL.
24. BLANKETS TO CONSIST OF THE FOLLOWING (OUTSIDE TO INSIDE, SEE DETAIL AV")
15 LAYERS OF .0005 ALUMINIZED POLYIMIDE FILM
10 LAYERS OF .000125 ALUMINIZED MYLAR
1 LAYER OF .0005 ALUMINIZED POLYIMIDE FILM
LAYED UP PER LPC 280-1 & LPC 280-3.
25. SPLICE PER LPC280-1
26. BLANKET TO CONSIST OF 24 LAYERS OF .000125 ALUMINIZED MYLAR SANDWICHED BETWEEN (1) LAYER EACH SIDE OF .0005 ALUMINIZED POLYIMIDE FILM. LAYED UP PER LPC 280-1
27. BLANKET TO CONSIST OF 10 LAYERS OF .000125 ALUMINIZED MYLAR SANDWICHED BETWEEN (1) LAYER EACH SIDE OF .0005 ALUMINIZED POLYIMIDE FILM. LAYED UP PER LPC 280-1
28. BLANKET TO CONSIST OF 5 LAYERS OF .0005 ALUMINIZED POLYIMIDE FILM LAYED UP PER LPC 280-1
29. BLANKET TO CONSIST OF 4 LAYERS OF .0005 ALUMINIZED POLYIMIDE FILM LAYED UP PER LPC 280-1
30. BLANKET TO CONSIST OF 3 LAYERS OF .0005 ALUMINIZED POLYIMIDE FILM AND (1) LAYER OF .005 ALUMINIZED POLYIMIDE FILM ON OUTBOARD SIDE. LAYED UP PER LPC 280-1.
31. VENT PER LPC 280-9 CONFIGURATION II.
32. ALL BLANKET VENT HOLES ARE TO BE LOCATED PER ENG APPROVED MASTER TEMPLATE AND CONSTRUCTED PER LPC280-2 CONFIGURATION II.

NAS 9-1100

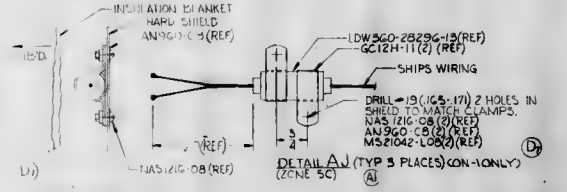
CODE IDENT NO 26512
LDW280-28173
SH 3



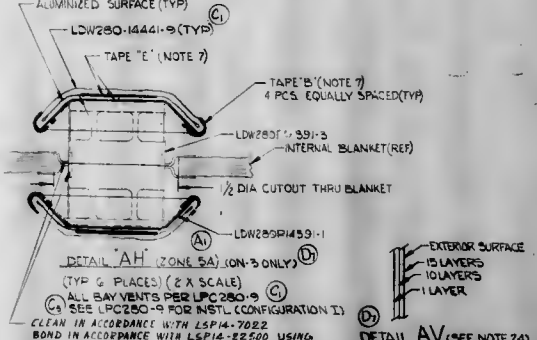
DETAIL AK (A1)
(RIGHT HAND SIDE ONLY)(ZONE 5C)



SECT AL-AL (A1)


INSULATION BLANKET HARD SHIELD AN960C8-4(REF)
LDW360-28296-13(REF)
GC12H-11(2) (REF)
SHIPS WIRING
DRILL Ø.19 (IG5-171) 2 HOLES IN SHIELD TO MATCH CLAMPS. NAS 1216-08 (2)(REF) AN960-C8 (2) (REF) MS21042-L08 (2) (REF)
NAS1216-08 (REF)

DETAIL AJ (TYP 3 PLACES)(CON-1 ONLY) (D7)
(ZONE 5C) (A1)



DETAIL AH (ZONE 5A) (CON-3 ONLY) (D7)
(TYP 6 PLACES) (2 X SCALE)
(C9) SEE LPC280-9 FOR INSTL (CONFIGURATION I) (C1)
CLEAN IN ACCORDANCE WITH LSP14-72022
BOND IN ACCORDANCE WITH LSP14-82500 USING EPON 934 ADHESIVE. CURE RANGE I

DETAIL AV (SEE NOTE 24) (D7)
(SCALE: NONE)

NOTES

~~(LDW280-28173-11 SUPER INSULATION ALUMINIZED MYLAR FILM TO BE PRE-FITTED, CUT, LAID UP INTO MULTIPLE SHEET BLANKETS OF 25 LAYERS WITH ALL SEAMS STAGGERED AS SHOWN. THE OPEN ENDS OF THE MULTIPLE LAYERS ARE TO BE CLOSED BY FOLDING OVER 1 LAYER FROM EACH SIDE AND SECURING WITH STAPLES USING GS577A-1 WIRE STAPLES ONLY WHEN BLANKETS ARE TO BE SPLICED OR REMOVED. SINCE THE OVERLAP FOR THIS ALUMINIZED ON ONE SIDE MAY IN SOME AREAS BURN THROUGH THE ALUMINIZED FACE OF ONE SHEET NEXT TO THE UNALUMINIZED FACE OF THE ADJACENT SHEET, MAKE A TEST FIRE OF THE ASSEMBLY TO BE USED TO BE SURE THAT THIS CONDITION DOES NOT EXIST. GREATER WIDTHS CAN BE ACHIEVED BY BUTT SPLICING ADDITIONAL WIDTHS PER SECTION "A-D" STOCK SIZE OF LDW280-28173-11 IS 50 INCHES WIDE BY 144 INCHES LONG. FINAL SIZE OF LDW280-28173-11 TO BE DETERMINED ON INSTALLATION. ALUMINIZED MYLAR FILM MAY BE PURCHASED FROM M. CORDI CORP., MAMARONECK, N.Y. CODE IDENT = 24761)~~

2 STAPLES GS577A-1 MAY BE PURCHASED FROM BOSTITCH INC., GREENWICH RI (STAPLING PLIER BOSTITCH PR3-REF)

4 ~~SUPER~~ INSULATION SHALL BE HANDLED WITH LINT FREE NYLON GLOVES.

5 ~~PERFORATION~~ ON END ITEM ONLY HOLES MAY BE PUNCHED ON ALL PLIES.

6 SUPER INSULATION TO BE FABRICATED UNDER CONDITIONS THAT CONFORM TO LSP 14-0011, LEVEL "C"

7. TAPE 'A' - GT835M-8 TO BE USED ON INTERNAL SIDE OF BLANKETS ONLY.
TAPE 'B' - GT835P-8 TO BE USED ON EXTERNAL SIDE OF BLANKETS BUT INSIDE OF HARD SHIELDING.
~~TAPE 'C' - LDW280P1087-11 TO BE USED ON EXTERNAL SIDE OF UNSHIELDED BLANKETS.~~
TAPE 'D' - GT535B-2-100 TO BE APPLIED TO MYLAR SIDE OF BLANKETS IN BUTT SPLICE AREAS.
TAPE 'E' - GT895E-8 POLYIMIDE TAPE WITH ADHESIVE ON BOTH SIDES.
TAPE 'F' - MAKE FROM TAPE 'B' OR 'D' AS SHOWN IN LPC 280-5

~~8. LDW280-28173-13 SUPER INSULATION ALUMINIZED POLYIMIDE FILM TO BE PREWRINKLED AND LAID UP INTO MULTIPLE SHEET BLANKETS OF 4 LAYERS AS SHOWN. MANUFACTURING PROCEDURE SIMILAR TO # (7) TO BE USED. OUTER OF -11 STOCK SIZE OF -13 IS 50 INCHES WIDE BY 120 FT LONG. FINAL SIZE OF -13 TO BE DETERMINED ON INSTALLATION. ALUMINIZED POLYIMIDE FILM MAY BE PURCHASED FROM M. CORDI CO., MAMARONECK, N.Y. CODE IDENT = 24761~~

(A) 9. BLANKETS TO BE PRE-FITTED ON LSK280-10922 103% SCALE MODEL. FINAL SIZE OF BLANKETS SHALL BE DETERMINED FROM APPROVED MASTER TEMPLATES.
10. ALUMINIZED MYLAR FILM & ALUMINIZED POLYIMIDE FILM TO BE LAID UP PER LPC 280-1
11. ALUMINIZED MYLAR FILM & ALUMINIZED POLYIMIDE FILM MAY BE PURCHASED FROM M. CORDI CORP., MAMARONECK, N.Y. CODE IDENT = 24761
12. (C9) ALL BLANKET VENTS PER LPC 280-2. APPLY LDW280-14440-81 BLANKET VENT PATCH TO OUTBOARD SIDE OF BLANKET.
~~13. LDW280P1088-3 TO BE LAID UP PER LPC 280-1~~
14. ALL SEAMS PER LPC 280-3
15. CUTTING & PATCHING PROCEDURE FOR LM THERMAL SHIELDING INSULATION BLANKETS PER LPC 280-6.
16. REPAIR PROCEDURE FOR LM THERMAL SHIELDING INSULATION BLANKETS PER LPC 280-8.
17. MATERIAL, FINISHES, HANDLING & PERMISSIBLE DEVIATIONS OF LM ASCENT STAGE THERMAL SHIELD SKINS PER LPC 280-16.
18. PERMISSIBLE DEVIATION & REPAIR PROCEDURE FOR LM THERMAL INSULATION BLANKETS PER LPC 280-20
19. GB10J-1 BUSHINGS & GW10H-1 WASHERS MAY BE REMOVED FROM BLANKET TO PERMIT INSTALLATION OF THERMAL SHIELDING.
20. AFTER COMPLETION OF INSTALLATION, IT IS PERMISSIBLE FOR MATING THERMAL SHIELD PANELS TO OVERLAP ONE ANOTHER UP TO ¾ MAX.
21. MAKE -1034-101 OF 25 LAYERS OF ALUMINIZED MYLAR SANDWICHED BETWEEN (1) LAYER EACH SIDE OF ALUMINIZED POLYIMIDE. FINAL SIZE TO BE DETERMINED FROM APPROVED MASTER TEMPLATES. MAKE PER LPC 280-1
22. -1034-105 TO BE 5 LAYERS POLYIMIDE FILM (KAPTON-H) .005 THICK & (1) LAYER POLYIMIDE FILM (KAPTON-H) .005 THICK, .005 LAYER TO BE INBOARD
23. ON INSTL OF LDW280-28377 (STANDOFF) LDW280M11247-14 AN960 C6 MAY BE USED AS AN ALTERNATE FOR GB511J-06-14-2. APPLY EPON-919, LSM 14-4103 AS PER LSP-14-14102, TO THREADS OF LDW280M11247-1 PRIOR TO INSTL.
24. BLANKETS TO CONSIST OF THE FOLLOWING (OUTSIDE TO INSIDE, SEE DETAIL "AV")
15 LAYERS OF .0005 ALUMINIZED POLYIMIDE FILM
10 LAYERS OF .000125 ALUMINIZED MYLAR
1 LAYER OF .0005 ALUMINIZED POLYIMIDE FILM
LAYED UP PER LPC 280-14 LPC 280-3.
25. SPLICE PER LPC 280-4
26. BLANKET TO CONSIST OF 24 LAYERS OF .000125 ALUMINIZED MYLAR SANDWICHED BETWEEN (1) LAYER EACH SIDE OF .0005 ALUMINIZED POLYIMIDE FILM. LAYED UP PER LPC 280-1
27. BLANKET TO CONSIST OF 10 LAYERS OF .000125 ALUMINIZED MYLAR SANDWICHED BETWEEN (1) LAYER EACH SIDE OF .0005 ALUMINIZED POLYIMIDE FILM. LAYED UP PER LPC 280-1
28. BLANKET TO CONSIST OF 5 LAYERS OF .0005 ALUMINIZED POLYIMIDE FILM LAYED UP PER LPC 280-1
29. BLANKET TO CONSIST OF 4 LAYERS OF .0005 ALUMINIZED POLYIMIDE FILM LAYED UP PER LPC 280-1
30. BLANKET TO CONSIST OF 5 LAYERS OF .0005 ALUMINIZED POLYIMIDE FILM AND (1) LAYER OF .005 ALUMINIZED POLYIMIDE FILM ON OUTBOARD SIDE. LAYED UP PER LPC 280-1.
31. VENT PER LPC 280-9 CONFIGURATION II
32. ALL BLANKET VENT HOLES ARE TO BE LOCATED PER ENG. APPROVED MASTER TEMPLATE AND CONSTRUCTED PER LPC 280-2 CONFIGURATION II.

NOTES (CONTINUED)
33. STANDOFFS IN THIS AREA DO NOT REQUIRE REPLACEMENT OF GB10J-1 BUSHINGS ON -3-1
34. THIS DWG IS AFFECTED BY THE FOLLOWING LFM'S. SEE LFM 654 LFM 145 FOR EFFECTIVITY AND MODIFICATION.
35. -/-1 MAY BE MADE BY REWORKING -/ BY REMOVING & SCRAPPING PARTS LISTED IN THE B/M FOR -/ 4 REPLACING WITH PARTS FOR -/-1.
36. TAPE ENTIRE EDGE OF BLANKET USING GT855P-8 TYP ALL BLANKETS.

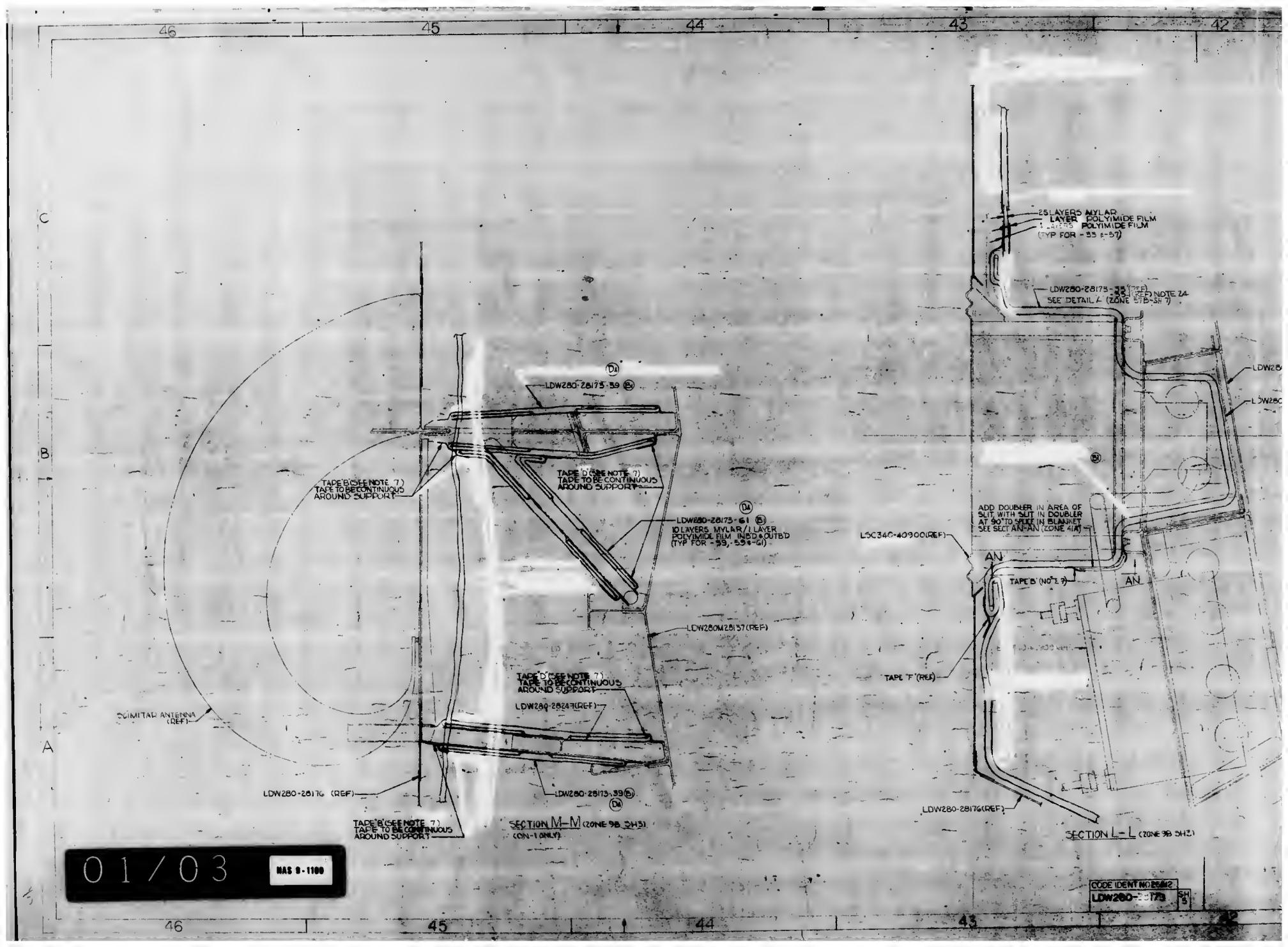
03703

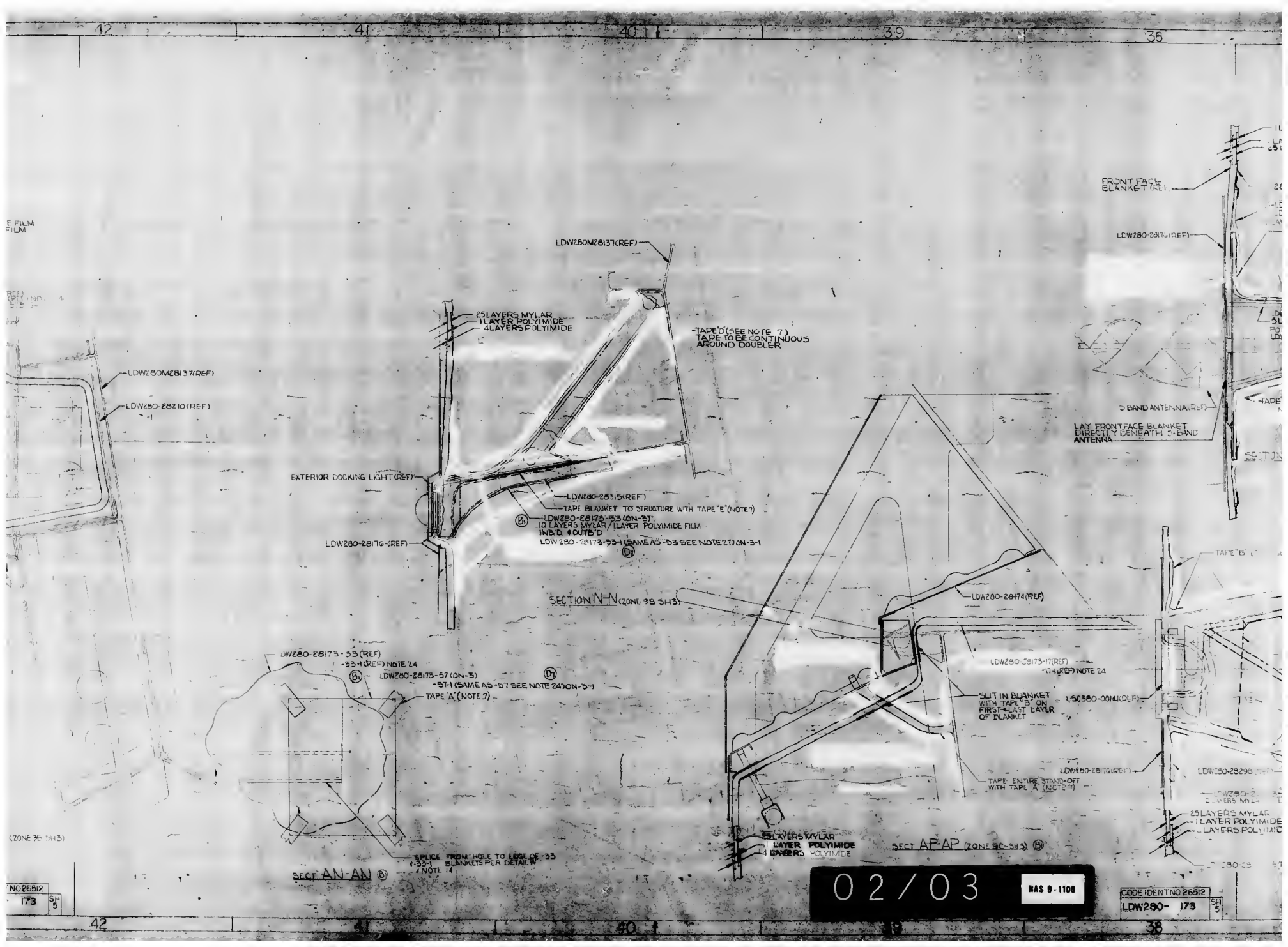
NAS 9-1100

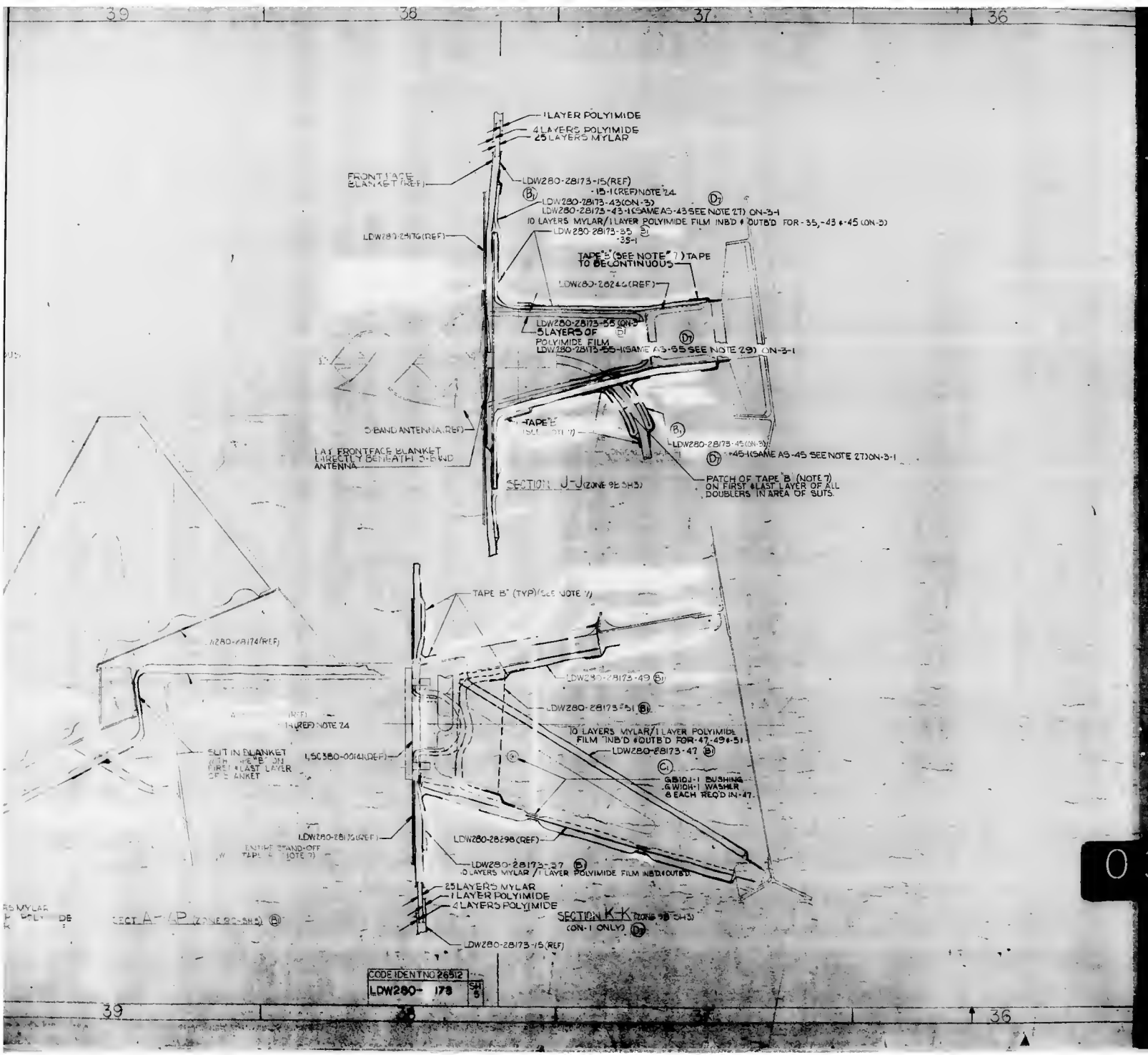
THIS IS AN ORIGINAL DWG ~ TO BE REDRAWN ON PRODUCTION FORMAT

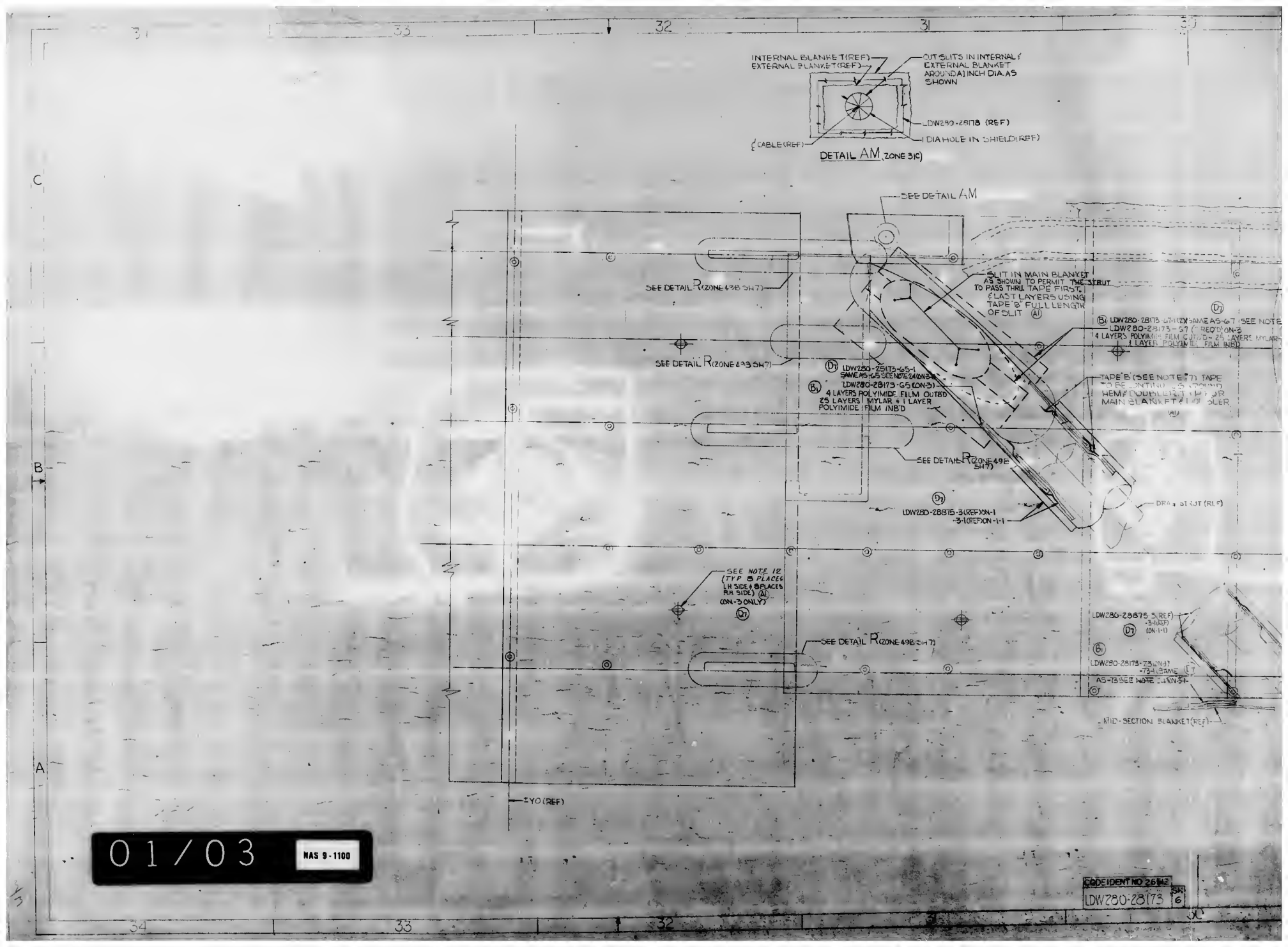
CODE IDENT NO 26512	LDW280-28173	SH 3

CODE IDENT NO	DRAWING NO	REV
J 26512	LDW280-28173	D


46
45
44
43
42
C
B
A
LDW280-28173-59 (B)
TAPE 'B' (SEE NOTE 7) TAPE TO BE CONTINUOUS AROUND SUPPORT
TAPE 'D' (SEE NOTE 7) TAPE TO BE CONTINUOUS AROUND SUPPORT
LDW280-28173-61 (B)
10 LAYERS MYLAR / 1 LAYER POLYIMIDE FILM INBD & OUTBD (TYP FOR -59, -59A-61)
LDW280M28157 (REF)
TAPE 'D' (SEE NOTE 7) TAPE TO BE CONTINUOUS AROUND SUPPORT
LDW280-28247 (REF)
SCIMITAR ANTENNA (REF)
LDW280-28176 (REF)
LDW280-28173-39 (B)
TAPE 'B' (SEE NOTE 7) TAPE TO BE CONTINUOUS AROUND SUPPORT
SECTION M-M (ZONE 9B SH3) (ON-1 ONLY)
25 LAYERS MYLAR 1 LAYER POLYIMIDE FILM 3 LAYERS POLYIMIDE FILM (TYP FOR -33 & -57)
LDW280-28173-33 (REF) (SEE NOTE 24) SEE DETAIL 'A' (ZONE 8TB-SH 7)
ADD DOUBLER IN AREA OF SLIT, WITH SLIT IN DOUBLER AT 90° TO SPLICE IN BLANKET SEE SECT AN-AN (ZONE 4A)
LSC340-40900 (REF)
AN
AN
TAPE 'B' (NOTE 7)
TAPE 'F' (REF)
LDW280-28176 (REF)
SECTION L-L (ZONE 9B SH2)
01/03
NAS 8-1100
CODE IDENT NO. 85442
LDW280-28173
SH 3


LDW280M28137(REF)
LDW280-28210(REF)
25 LAYERS MYLAR
1 LAYER POLYIMIDE
4 LAYERS POLYIMIDE
TAPE "D" (SEE NOTE 7) TAPE TO BE CONTINUOUS AROUND DOUBLER
EXTERIOR DOCKING LIGHT (REF)
LDW280-28176(REF)
LDW280-28315(REF)
TAPE BLANKET TO STRUCTURE WITH TAPE "E" (NOTE 7)
B1 LDW280-28173-53 (ON-3)
10 LAYERS MYLAR / 1 LAYER POLYIMIDE FILM
INB'D & OUTB'D
LDW280-28173-53-1 (SAME AS -53 SEE NOTE 27) ON-3-1
D1
SECTION N-N (ZONE 3B SH3)
LDW280-28173-33 (REF)
-33-1 (REF) NOTE 24
B1 LDW280-28173-57 (ON-3)
-57-1 (SAME AS -57 SEE NOTE 24) ON-3-1
D1
TAPE "A" (NOTE 7)
SPLICE FROM HOLE TO EDGE OF -33 -33-1 BLANKETS PER DETAIL W # NOTE 14
SECT AN-AN B1
(ZONE 3E SH3)
FRONT FACE BLANKET (REF)
LDW280-28176(REF)
S BAND ANTENNA (REF)
LAY FRONTFACE BLANKET DIRECTLY BENEATH S-BAND ANTENNA
TAPE "B"
LDW280-28174(REF)
LDW280-28173-17(REF)
-17-1(REF) NOTE 24
SLIT IN BLANKET WITH TAPE "B" ON FIRST & LAST LAYER OF BLANKET
LS0380-0014(REF)
LDW280-28176(REF)
TAPE ENTIRE STAND-OFF WITH TAPE "A" (NOTE 7)
LDW280-28298(REF)
25 LAYERS MYLAR
1 LAYER POLYIMIDE
4 LAYERS POLYIMIDE
SECT AP-AP (ZONE 3C-SH3) B1
02/03
NAS 9-1100
CODE IDENT NO 26512
LDW280- 173 SH 5
NO 26512
173 SH 5


1 LAYER POLYIMIDE
4 LAYERS POLYIMIDE
25 LAYERS MYLAR
FRONTFACE BLANKET (REF)
LDW280-28173-15(REF)
-15-1(REF)NOTE 24
LDW280-28173-43(ON-3)
LDW280-28173-43-1(SAME AS-43 SEE NOTE 27) ON-3-1
10 LAYERS MYLAR/1 LAYER POLYIMIDE FILM INB'D & OUTB'D FOR-35,-43 &-45 (ON-3)
LDW280-28173-35
-35-1
LDW280-28176(REF)
TAPE "B" (SEE NOTE 7) TAPE TO BE CONTINUOUS
LDW280-28246(REF)
LDW280-28173-55 (ON-3)
5 LAYERS OF POLYIMIDE FILM
LDW280-28173-55-1(SAME AS-55 SEE NOTE 29) ON-3-1
TAPE "B"
LDW280-28173-45(ON-3)
-45-1(SAME AS-45 SEE NOTE 27)ON-3-1
S-BAND ANTENNA (REF)
LAY FRONTFACE BLANKET DIRECTLY BENEATH S-BAND ANTENNA
SECTION J-J (ZONE 9B SH3)
PATCH OF TAPE "B" (NOTE 7) ON FIRST & LAST LAYER OF ALL DOUBLERS IN AREA OF SLITS.
TAPE "B" (TYP)(SEE NOTE 7)
LDW280-28174(REF)
LDW280-28173-49
LDW280-28173-51
10 LAYERS MYLAR/1 LAYER POLYIMIDE FILM INB'D & OUTB'D FOR-47-49-51
LDW280-28173-47
SLIT IN BLANKET (TAPE "B" ON FIRST & LAST LAYER OF BLANKET)
LSC380-00104(REF)
GB10J-1 BUSHING
GWIDH-1 WASHER
8 EACH REQ'D IN-47.
LDW280-28176(REF)
LDW280-28296(REF)
ENTIRE STAND-OFF TAPE "B" (NOTE 7)
LDW280-28173-37
10 LAYERS MYLAR / 1 LAYER POLYIMIDE FILM INB'D & OUTB'D
25 LAYERS MYLAR
1 LAYER POLYIMIDE
4 LAYERS POLYIMIDE
SECTION K-K (ZONE 9B SH3) (CON-1 ONLY)
LDW280-28173-15(REF)
SECT A-A (ZONE 9C SH2)
CODE IDENT NO 26512
LDW280- 173
SH 5
03/03
NAS 9-1100
THIS IS AN ORIGINAL DR. INC
J
26512
LDW280-
3
5
NONE


INTERNAL BLANKET (REF)
EXTERNAL BLANKET (REF)
CUT SLITS IN INTERNAL & EXTERNAL BLANKET AROUND A 1 INCH DIA. AS SHOWN
LDW280-28178 (REF)
1 DIA HOLE IN SHIELD (REF)
CABLE (REF)
DETAIL AM (ZONE 31C)
SEE DETAIL AM
SEE DETAIL R (ZONE 49B SH 7)
SLIT IN MAIN BLANKET AS SHOWN TO PERMIT THE STRUT TO PASS THRU. TAPE FIRST & LAST LAYERS USING TAPE 'B' FULL LENGTH OF SLIT (A1)
LDW280-28173-67 (2 REQ'D) ON-3
4 LAYERS POLYIMIDE FILM OUTBD ~ 25 LAYERS MYLAR
1 LAYER POLYIMIDE FILM INB'D
LDW280-28173-65-1 SAME AS -65 SEE NOTE 24 (ON-3)
LDW280-28173-65 (ON-3)
4 LAYERS POLYIMIDE FILM OUTBD
25 LAYERS MYLAR & 1 LAYER POLYIMIDE FILM INB'D
TAPE 'B' (SEE NOTE 7) TAPE
HEMP DOUBLER TO
MAIN BLANKET
SEE DETAIL R (ZONE 49E SH 7)
LDW280-28875-3 (REF) ON-1
-3-1 (REF) ON-1-1
DRAG STRUT (REF)
SEE NOTE 12 (TYP 8 PLACES LH SIDE & 8 PLACES RH SIDE) (A1) (ON-3 ONLY)
SEE DETAIL R (ZONE 49B SH 7)
LDW280-28875-3 (REF)
-3-1 (REF)
(ON-1-1)
LDW280-28173-73 (ON-3)
-73-1 SAME AS -73 SEE NOTE 1 (ON-3)
MID-SECTION BLANKET (REF)
±Y0 (REF)

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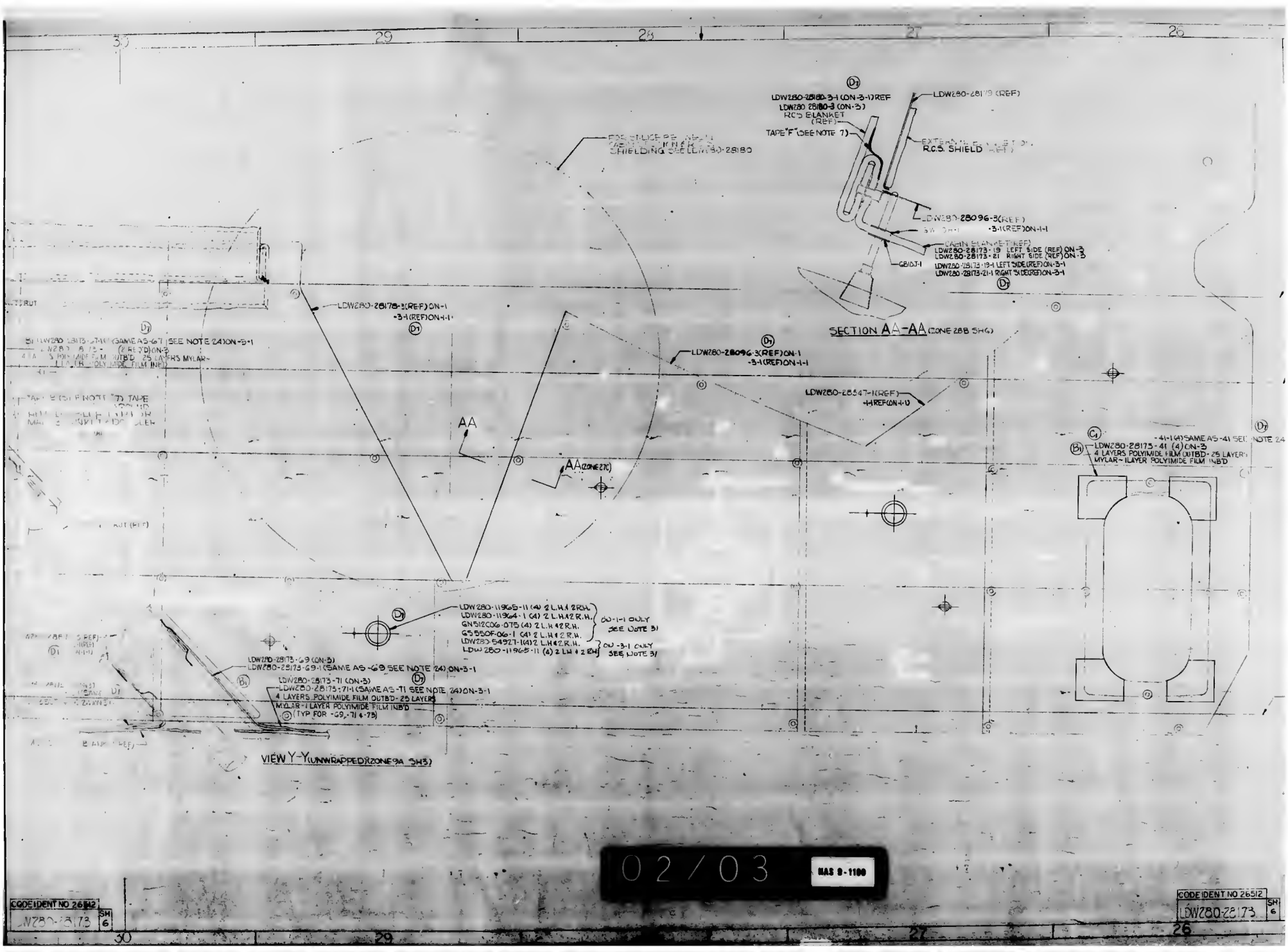
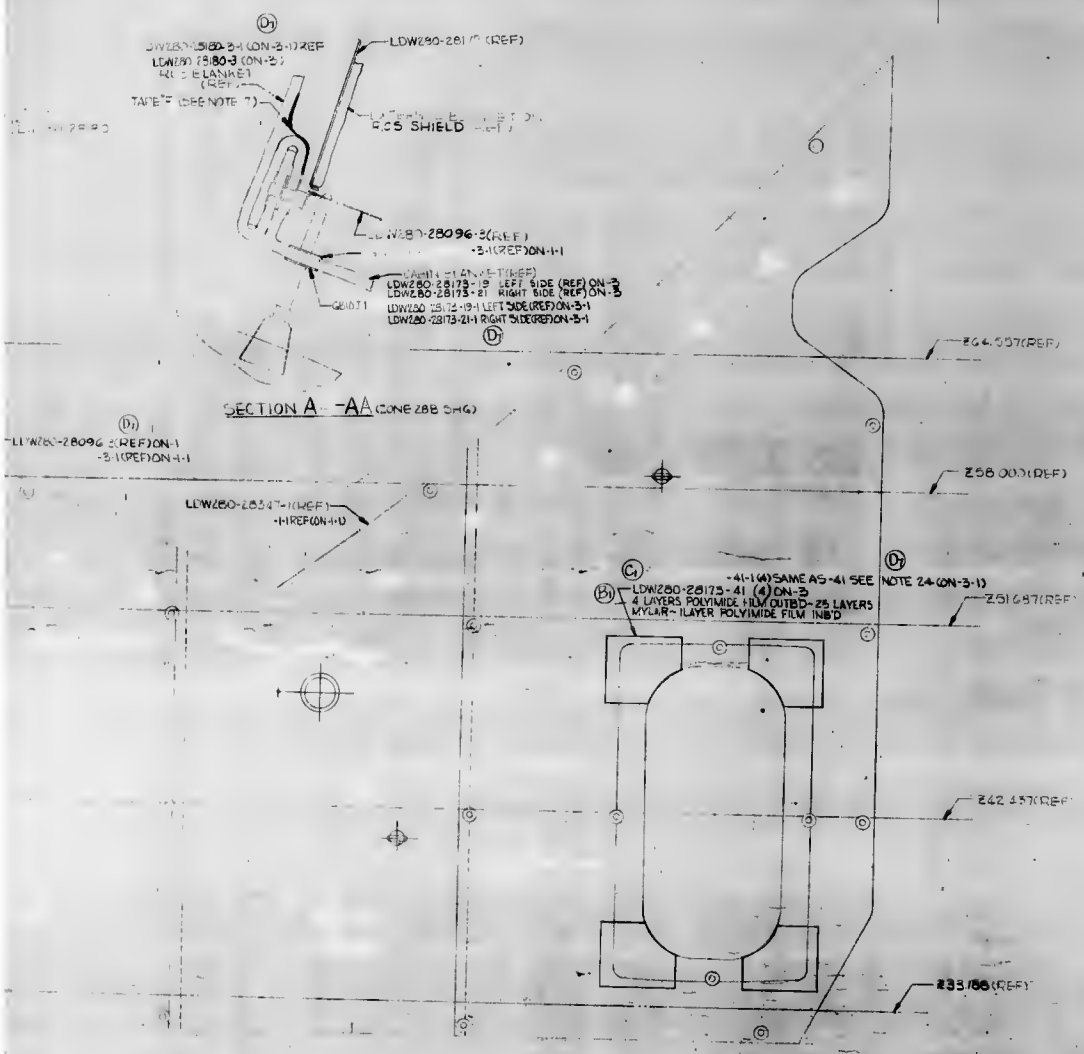
CODE IDENT NO 26982
LDW280-28173 SH 6


LDW280-28180-3-1 (ON-3-1) REF
LDW280-28180-3 (ON-3)
R.C.S. BLANKET (REF)
TAPE "F" (SEE NOTE 7)
LDW280-28179 (REF)
EXTERNAL R.C.S. SHIELD (REF)
LDW280-28096-3(REF)
-3-1(REF)ON-1-1
LDW280-28173-19 LEFT SIDE (REF) ON-3
LDW280-28173-21 RIGHT SIDE (REF) ON-3
LDW280-28173-19-1 LEFT SIDE (REF) ON-3-1
LDW280-28173-21-1 RIGHT SIDE (REF) ON-3-1
SECTION AA-AA (ONE 288 SHG)
LDW280-28178-3(REF)ON-1
-3-1(REF)ON-1-1
LDW280-28096-3(REF)ON-1
-3-1(REF)ON-1-1
LDW280-28547-1(REF)
-1REF ON-1-1
AA
AA (ONE 270)
LDW280-28173-41 (4) ON-3
4 LAYERS POLYIMIDE FILM OUTBD - 25 LAYER MYLAR - 1 LAYER POLYIMIDE FILM INB'D
LDW280-11965-11 (4) 2 L.H. & 2 R.H.
LDW280-11964-1 (4) 2 L.H. & 2 R.H.
GN512C06-075 (4) 2 L.H. & 2 R.H.
GS550F-06-1 (4) 2 L.H. & 2 R.H.
LDW280-54927-1(4) 2 L.H. & 2 R.H.
LDW280-11965-11 (4) 2 L.H. & 2 R.H.
ON -1-1 ONLY SEE NOTE 31
ON -3-1 ONLY SEE NOTE 31
LDW280-28173-69 (ON-3)
LDW280-28173-69-1 (SAME AS -69 SEE NOTE 24) ON-3-1
LDW280-28173-71 (ON-3)
LDW280-28173-71-1 (SAME AS -71 SEE NOTE 24) ON-3-1
4 LAYERS POLYIMIDE FILM OUTBD - 25 LAYERS
MYLAR - 1 LAYER POLYIMIDE FILM INB'D
(TYP FOR -69, -71 & -73)
VIEW Y-Y (UNWRAPPED) (ZONE 9A SH3)
02/03
NAS 9-1100
CODE IDENT NO 26512
LDW280-28173
SH 6
CODE IDENT NO 26512
LDW280-28173
SH 6



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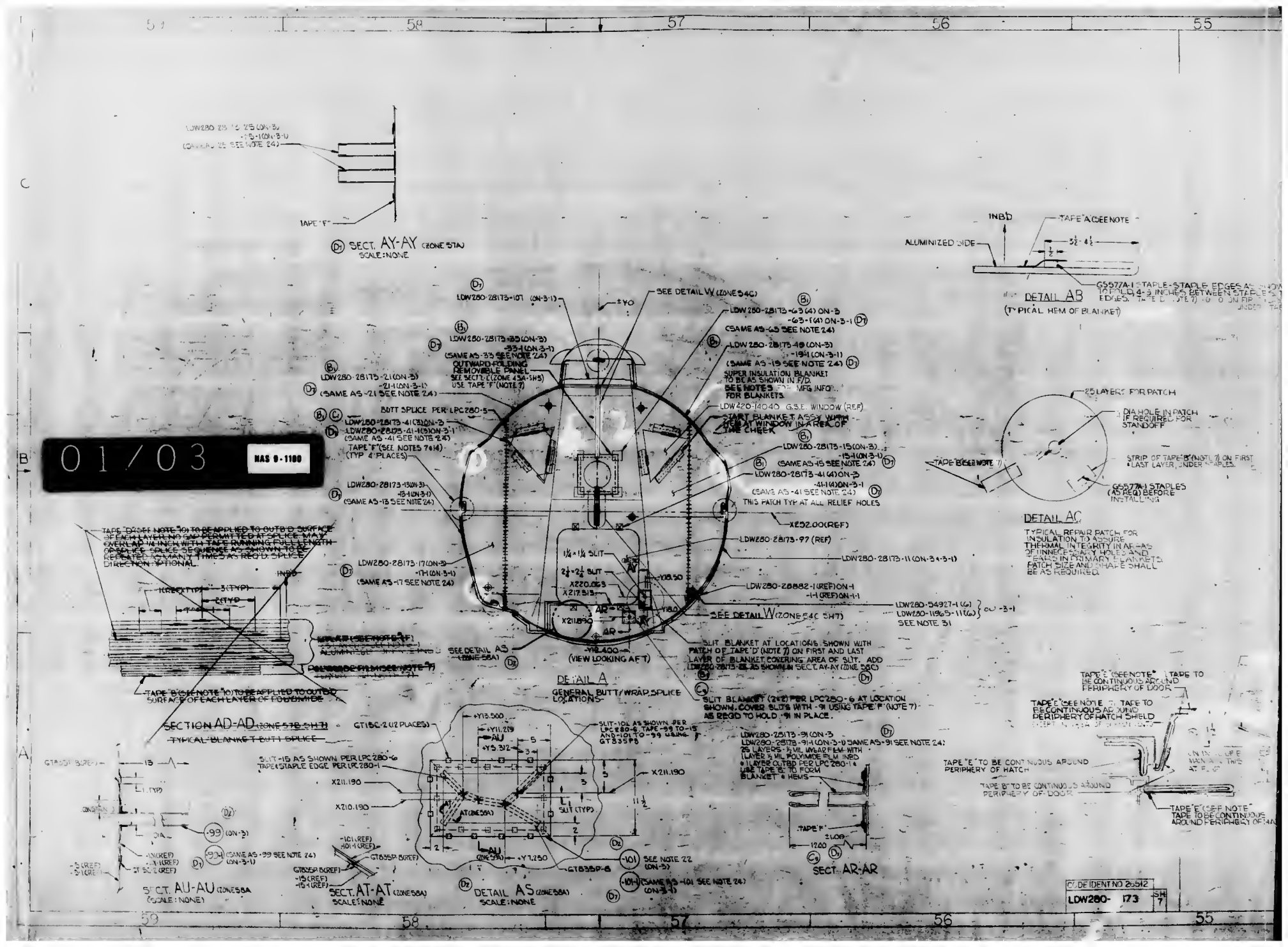
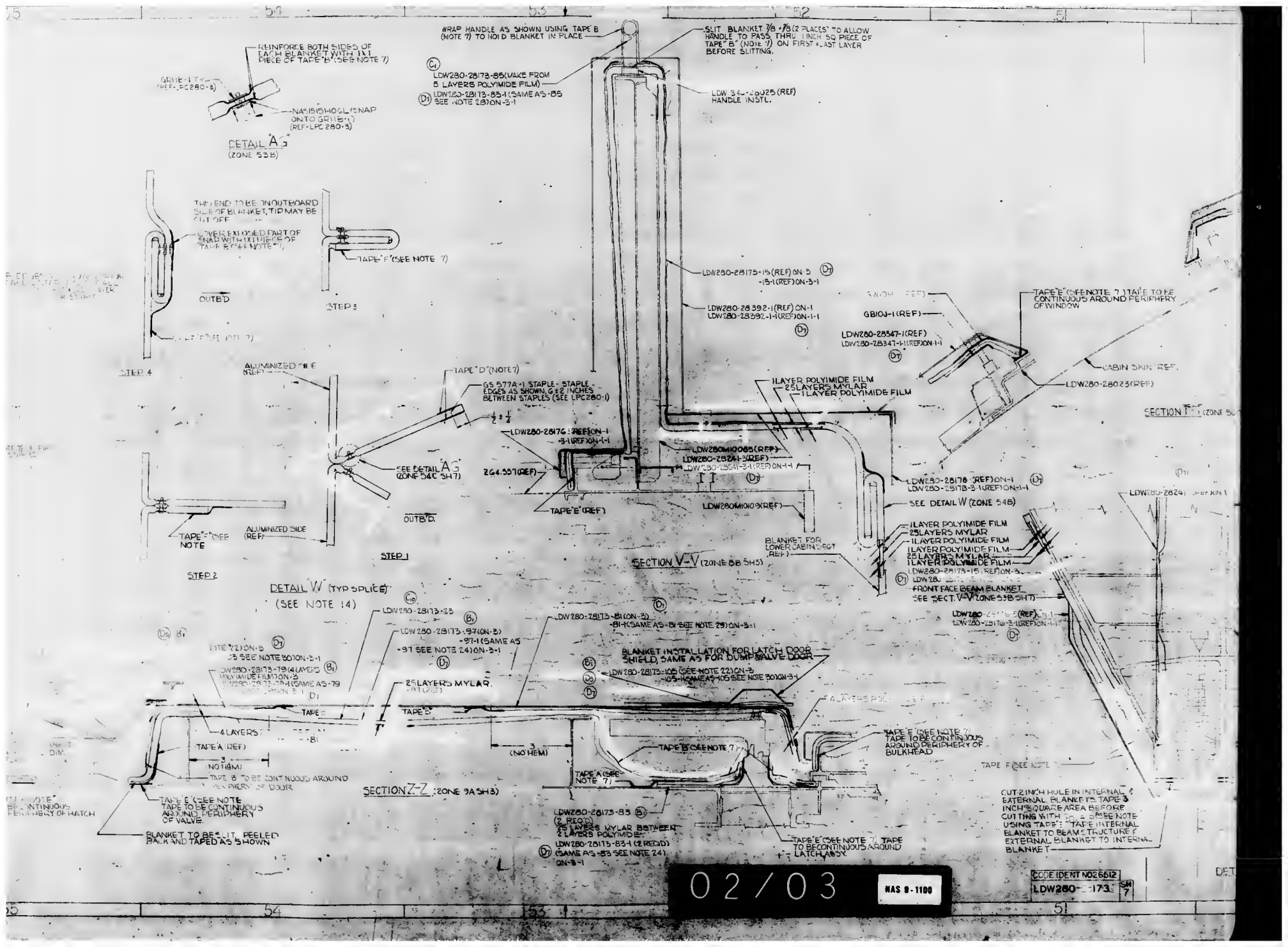
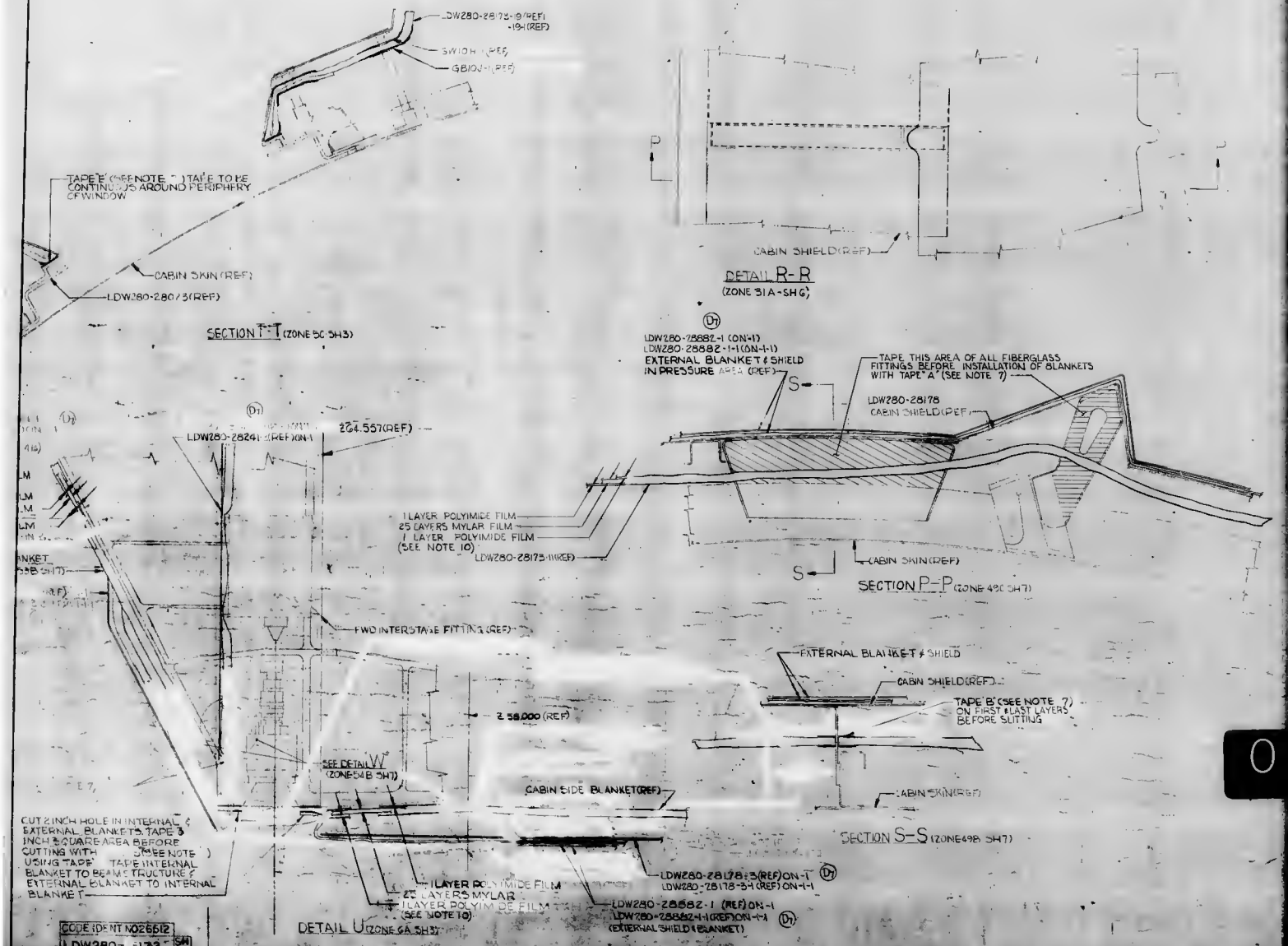

SECT. AY-AY (ZONE 57A)
SCALE: NONE
TAPE 'F'
DETAIL A
GENERAL BUTT/WRAP SPLICE LOCATIONS
SEE DETAIL W (ZONE 54C)
LDW280-28173-107 (ON-3-1)
LDW280-28173-63 (4) ON-3 -63-1 (4) ON-3-1
(SAME AS -63 SEE NOTE 24)
LDW280-28173-49 (ON-3) -19-1 (ON-3-1)
(SAME AS -19 SEE NOTE 24)
SUPER INSULATION BLANKET TO BE AS SHOWN IN F/D. SEE NOTE 3 FOR MFG INFO. FOR BLANKETS
LDW280-28173-33 (ON-3) -33-1 (ON-3-1)
(SAME AS -33 SEE NOTE 24)
OUTWARD-FOLDING REMOVABLE PANEL SEE SECT. L (ZONE 45A-5H5) USE TAPE 'F' (NOTE 7)
LDW280-28173-21 (ON-3) -21-1 (ON-3-1)
(SAME AS -21 SEE NOTE 24)
BUTT SPLICE PER LPC280-5
LDW280-28173-41 (3) ON-3
LDW280-28173-41-1 (3) ON-3-1
(SAME AS -41 SEE NOTE 24)
TAPE 'F' (SEE NOTES 7 & 14) (TYP 4 PLACES)
LDW280-28173-13 (ON-3) -13-1 (ON-3-1)
(SAME AS -13 SEE NOTE 24)
LDW280-28173-17 (ON-3) -17-1 (ON-3-1)
(SAME AS -17 SEE NOTE 24)
LDW420-14040 G.S.E. WINDOW (REF)
START BLANKET ASSY WITH SEAM AT WINDOW IN AREA OF TIME CHECK
LDW280-28173-15 (ON-3) -15-1 (ON-3-1)
(SAME AS -15 SEE NOTE 24)
LDW280-28173-41 (4) ON-3 -41-1 (4) ON-3-1
(SAME AS -41 SEE NOTE 24)
THIS PATCH TYP AT ALL RELIEF HOLES
X252.00 (REF)
LDW280-28173-97 (REF)
LDW280-28173-11 (ON-3-1-1)
LDW280-28882-1 (REF) ON-1 -1 (REF) ON-1-1
LDW280-34927-1 (6) LDW280-11965-11 (6) } ON-3-1
SEE NOTE 31
1¼ x 1¼ SLIT
2½ x 2½ SLIT
X220.063
X217.313
Y18.50
Y18.0
X211.890
AR
Y18.400
(VIEW LOOKING AFT)
SEE DETAIL AS (ZONE 58A)
SEE DETAIL W (ZONE 54C SH 7)
SLIT BLANKET AT LOCATIONS SHOWN WITH PATCH OF TAPE 'D' (NOTE 7) ON FIRST AND LAST LAYER OF BLANKET COVERING AREA OF SLIT. ADD LDW280-28173-25 AS SHOWN IN SECT. AY-AY (ZONE 55C)
SLIT BLANKET (2+2) PER LPC280-6 AT LOCATION SHOWN. COVER SLITS WITH -91 USING TAPE 'F' (NOTE 7) AS REQ'D TO HOLD -91 IN PLACE.
TAPE 'B' (SEE NOTE 10) TO BE APPLIED TO OUTER SURFACE OF EACH LAYER OF FOAM SIDE
TAPE 'B' (SEE NOTE 10) TO BE APPLIED TO OUTER SURFACE OF EACH LAYER, NO GAPS PERMITTED AT SPLICE. MAY OVERLAP ¼ INCH WITH TAPE RUNNING FULL LENGTH OF SPLICE. SPLICE SEQUENCE AS SHOWN TO BE REPEATED AS MANY TIMES AS REQ'D. SPLICE DIRECTION OPTIONAL.
INBD
3 (TYP)
2 (TYP)
SECTION AD-AD (ZONE 57B SH 7)
TYPICAL BLANKET BUTT SPLICE
SECT. AU-AU (ZONE 58A)
SCALE: NONE
SECT. AT-AT (ZONE 58A)
SCALE: NONE
DETAIL AS (ZONE 58A)
SCALE: NONE
SLIT-15 AS SHOWN PER LPC280-6 TAPE STAPLE EDGE PER LPC280-1
SLIT-101 AS SHOWN PER LPC280-6. TAPE -99 TO -15 AND -101 TO -99 USING GT835P8
GT150-2 (2 PLACES)
GT835P8
GT835P-6
SEE NOTE 22
(SAME AS -101 SEE NOTE 24)
LDW280-28173-91 (ON-3) LDW280-28173-91-1 (ON-3-1) (SAME AS -91 SEE NOTE 24)
25 LAYERS - ¼ MIL UNVAPEL FILM WITH 1 LAYER ½ MIL POLYIMIDE FILM INSD
1 LAYER OUTBD PER LPC280-1
USE TAPE 'E' TO FORM BLANKET & HEMS
TAPE 'F'
±.008
12.00
SECT. AR-AR
INBD
ALUMINIZED SIDE
TAPE 'A' (SEE NOTE 7)
3½ - 4½
½
G5577A-1 STAPLE - STAPLE EDGES AS SHOWN TO FOLD 4-3 INCHES BETWEEN STAPLES, EDGES. TAPE D (NOTE 7) OVER FIRST UNDER TAPE
DETAIL AB
(TYPICAL HEM OF BLANKET)
25 LAYERS FOR PATCH
DIA HOLE IN PATCH IF REQUIRED FOR STANDOFF
TAPE 'B' (SEE NOTE 7)
STRIP OF TAPE 'B' (INSTL 7) ON FIRST & LAST LAYER, UNDER STAPLES.
G5577A-1 STAPLES (AS REQ'D) BEFORE INSTALLING
DETAIL AC
TYPICAL REPAIR PATCH FOR INSULATION TO ASSURE THERMAL INTEGRITY IN AREAS OF UNNECESSARY HOLES AND TEARS IN PRIMARY BLANKETS. PATCH SIZE AND SHAPE SHALL BE AS REQUIRED.
TAPE 'E' (SEE NOTE 7) TAPE TO BE CONTINUOUS AROUND PERIPHERY OF DOOR
TAPE 'E' (SEE NOTE 7) TAPE TO BE CONTINUOUS AROUND PERIPHERY OF HATCH SHIELD
TAPE 'E' TO BE CONT'NUOUS AROUND PERIPHERY OF HATCH
TAPE 'B' TO BE CONTINUOUS AROUND PERIPHERY OF DOOR
TAPE 'E' (SEE NOTE 7) TAPE TO BE CONTINUOUS AROUND PERIPHERY OF HA
01/03
NAS 9-1100
CODE IDENT NO 25512
LDW280- 173
SH 7


WRAP HANDLE AS SHOWN USING TAPE B (NOTE 7) TO HOLD BLANKET IN PLACE
SLIT BLANKET 7/8 x 7/8 (2 PLACES) TO ALLOW HANDLE TO PASS THRU 1 INCH SQ PIECE OF TAPE "B" (NOTE 7) ON FIRST & LAST LAYER BEFORE SLITTING.
REINFORCE BOTH SIDES OF EACH BLANKET WITH 1 x 1 PIECE OF TAPE "B" (SEE NOTE 7)
GRIPPER (REF-LPC280-3)
NAS1515H06L (SNAP ONTO GRIP B-1) (REF-LPC 280-3)
DETAIL "AG" (ZONE 53B)
LDW280-28173-85 (MAKE FROM 5 LAYERS POLYIMIDE FILM)
LDW280-28173-83-1 (SAME AS -85 SEE NOTE 28) ON-3-1
LDW 340-26025 (REF) HANDLE INSTL.
THIS END TO BE ON OUTBOARD SIDE OF BLANKET, TIP MAY BE CUT OFF
COVER EXPOSED PART OF SNAP WITH LAYER OF TAPE "B" (SEE NOTE 7)
TAPE "F" (SEE NOTE 7)
OUTBD
STEP 3
STEP 4
LDW280-28175-15 (REF) ON-3
-15-1 (REF) ON-3-1
LDW280-28392-1 (REF) ON-1
LDW280-28392-1-1 (REF) ON-1-1
GB10J-1 (REF)
LDW280-28347-1 (REF)
LDW280-28347-1-1 (REF) ON-1-1
TAPE "E" (SEE NOTE 7) TAPE TO BE CONTINUOUS AROUND PERIPHERY OF WINDOW
CABIN SKIN (REF.)
LDW280-28023 (REF)
SECTION T-T (ZONE 5C
ALUMINIZED SIDE (REF)
TAPE "D" (NOTE 7)
GS 5774-1 STAPLE - STAPLE EDGES AS SHOWN, 1 1/2 INCHES BETWEEN STAPLES (SEE LPC280-1)
1/2 x 1/2
LDW280-28176 (REF) ON-1
-3-1 (REF) ON-1-1
SEE DETAIL AJ (ZONE 54C SH 7)
ZG4.551 (REF)
TAPE "E" (REF)
LDW280M1008S (REF)
LDW280-28241-3 (REF)
LDW280-28241-3-1 (REF) ON-1-1
1 LAYER POLYIMIDE FILM
25 LAYERS MYLAR
1 LAYER POLYIMIDE FILM
LDW280-28178 (REF) ON-1
LDW280-28178-3-1 (REF) ON-1-1
SEE DETAIL W (ZONE 54B)
LDW280M1010-9 (REF)
TAPE "E" (SEE NOTE
ALUMINIZED SIDE (REF)
OUTBD
STEP 1
STEP 2
BLANKET FOR LOWER CABIN SECT (REF)
SECTION V-V (ZONE 58 SH 5)
1 LAYER POLYIMIDE FILM
25 LAYERS MYLAR
1 LAYER POLYIMIDE FILM
1 LAYER POLYIMIDE FILM
25 LAYERS MYLAR
1 LAYER POLYIMIDE FILM
LDW280-28173-15 (REF) ON-3
LDW280-28241-3 (REF) ON-1
FRONT FACE BEAM BLANKET
SEE SECT V-V (ZONE 53B SH 7)
LDW280-28176-3 (REF) ON-1
LDW280-28176-3-1 (REF) ON-1-1
DETAIL W (TYP SPLICE) (SEE NOTE 14)
LDW280-28173-23
LDW280-28173-97 (ON-3) -97-1 (SAME AS -97 SEE NOTE 24) ON-3-1
LDW280-28173-81 (ON-3) -81-1 (SAME AS -81 SEE NOTE 29) ON-3-1
BLANKET INSTALLATION FOR LATCH DOOR SHIELD, SAME AS FOR DUMP VALVE DOOR
LDW280-28173-105 (SEE NOTE 22) ON-3
-105-1 (SAME AS -105 SEE NOTE 30) ON-3-1
LDW280-28173-79 (4 LAYERS POLYIMIDE FILM) ON-3
LDW280-28173-79-1 (SAME AS -79 ON-3-1
25 LAYERS MYLAR
TAPE E
TAPE E
4 LAYERS
TAPE A (REF)
3 (NO HEM)
TAPE B TO BE CONTINUOUS AROUND PERIPHERY OF DOOR
TAPE E (SEE NOTE TAPE TO BE CONTINUOUS AROUND PERIPHERY OF HATCH
TAPE E (SEE NOTE TAPE TO BE CONTINUOUS AROUND PERIPHERY OF VALVE.
BLANKET TO BE CUT, PEELED BACK AND TAPED AS SHOWN
SECTION Z-Z (ZONE 9A SH 3)
TAPE B (SEE NOTE 7)
TAPE A (SEE NOTE 7)
LDW280-28173-83 (2 REQ'D) 25 LAYERS MYLAR BETWEEN 2 LAYERS POLYIMIDE
LDW280-28173-83-1 (2 REQD) (SAME AS -83 SEE NOTE 24) ON-3-1
TAPE E (SEE NOTE 7) TAPE TO BE CONTINUOUS AROUND LATCH BODY
TAPE E (SEE NOTE 7) TAPE TO BE CONTINUOUS AROUND PERIPHERY OF BULKHEAD
TAPE F (SEE NOTE
CUT 2 INCH HOLE IN INTERNAL & EATERNAL BLANKETS. TAPE 3 INCH SQUARE AREA BEFORE CUTTING WITH TAPE E (SEE NOTE USING TAPE E TAPE INTERNAL BLANKET TO BEAM STRUCTURE & EXTERNAL BLANKET TO INTERNAL BLANKET
02/03
NAS 8-1100
CODE IDENT NO 26512
LDW280-28173
SH 7


LDW280-28175-9(REF)
-19-(REF)
SWITCH (REF)
GB10J-1(REF)
TAPE 'E' (SEE NOTE) TAPE TO BE CONTINUOUS AROUND PERIPHERY OF WINDOW
CABIN SKIN (REF)
LDW280-2807-3(REF)
SECTION T-T (ZONE 5C 5H3)
DETAIL R-R
(ZONE 31A-5H6)
CABIN SHIELD(REF)
LDW280-28882-1 (ON-1)
LDW280-28882-1-1 (ON-1-1)
EXTERNAL BLANKET & SHIELD IN PRESSURE AREA (REF)
TAPE THIS AREA OF ALL FIBERGLASS FITTINGS BEFORE INSTALLATION OF BLANKETS WITH TAPE 'A' (SEE NOTE 7)
LDW280-28178 CABIN SHIELD(REF)
LDW280-28241-1(REF)ON-1
264.557(REF)
1 LAYER POLYIMIDE FILM
25 LAYERS MYLAR FILM
1 LAYER POLYIMIDE FILM
(SEE NOTE 10)
LDW280-28175-11(REF)
CABIN SKIN(REF)
SECTION P-P (ZONE 49C 5H7)
FWD INTERSTAGE FITTING (REF)
EXTERNAL BLANKET & SHIELD
CABIN SHIELD(REF)
TAPE 'B' (SEE NOTE 7) ON FIRST & LAST LAYERS BEFORE SLITTING
258.000 (REF)
SEE DETAIL W (ZONE 54B 5H7)
CABIN SIDE BLANKET(REF)
CABIN SKIN(REF)
SECTION S-S (ZONE 49B 5H7)
CUT 2 INCH HOLE IN INTERNAL & EXTERNAL BLANKETS. TAPE 3 INCH SQUARE AREA BEFORE CUTTING WITH (SEE NOTE) USING TAPE 'F' TAPE INTERNAL BLANKET TO BEAM STRUCTURE & EXTERNAL BLANKET TO INTERNAL BLANKET
1 LAYER POLYIMIDE FILM
25 LAYERS MYLAR
1 LAYER POLYIMIDE FILM
(SEE NOTE 10)
LDW280-28178-3(REF)ON-1
LDW280-28178-3-1(REF)ON-1-1
LDW280-28882-1 (REF)ON-1
LDW280-28882-1-1(REF)ON-1-1
(EXTERNAL SHIELD & BLANKET)
DETAIL U (ZONE 6A 5H3)

MANUFACTURING OPERATIONS
UNLESS OTHERWISE SPECIFIED NOTES CHECKED √ APPLY TO THIS DWG.

PART NUMBER AND ALL OTHER MARKINGS IN BRIGHT MARKED ☐ USE NEW DIES IF NECESSARY.

FILLET AND INSIDE CORNER RADII TOLERANCES
.XXX TO .062R ± .010
.XXX TO .250R ± .015
OVER .250R ± .030

DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS. 2½ DIAM THDS. BEYOND PERMISSIBLE.

EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 INCOMPLETE THREADS MAX.

DO NOT CADMIUM PLATE & PAINT HOLES OR SURFACES MARKED WITH DOUBLE ASTERISK.

MISMATCH STEP OF ± .005 PERMISSIBLE DUE TO CHANGE OF CUTTER AT INSIDE MATING SURFACES.

DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING

HOLES MAY BE LEFT FREE OF CHROME PLATING IN OPTION.

ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING. THICKNESS OF PLATE TAKEN TO .0005 MAX. MIN THICKNESS TO BE MET ON THREADED AREAS. NO ALLOWANCE FOR PLATING IN HOLES

125 SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL-STD-10

32 FOR ALL DRILLED HOLES

REMOVE ALL BURRS. BREAK ALL EDGES .015-.045

INSPECTION INFORMATION
MINIMUM PERMISSIBLE AVERAGE EDGE DISTANCE MARKED 1.5

SYMBOL ✓ DENOTES SURFACE TO BE MACHINED

UNLESS OTHERWISE SPECIFIED TOLERANCE ON FLANGES IS ± 1/2°

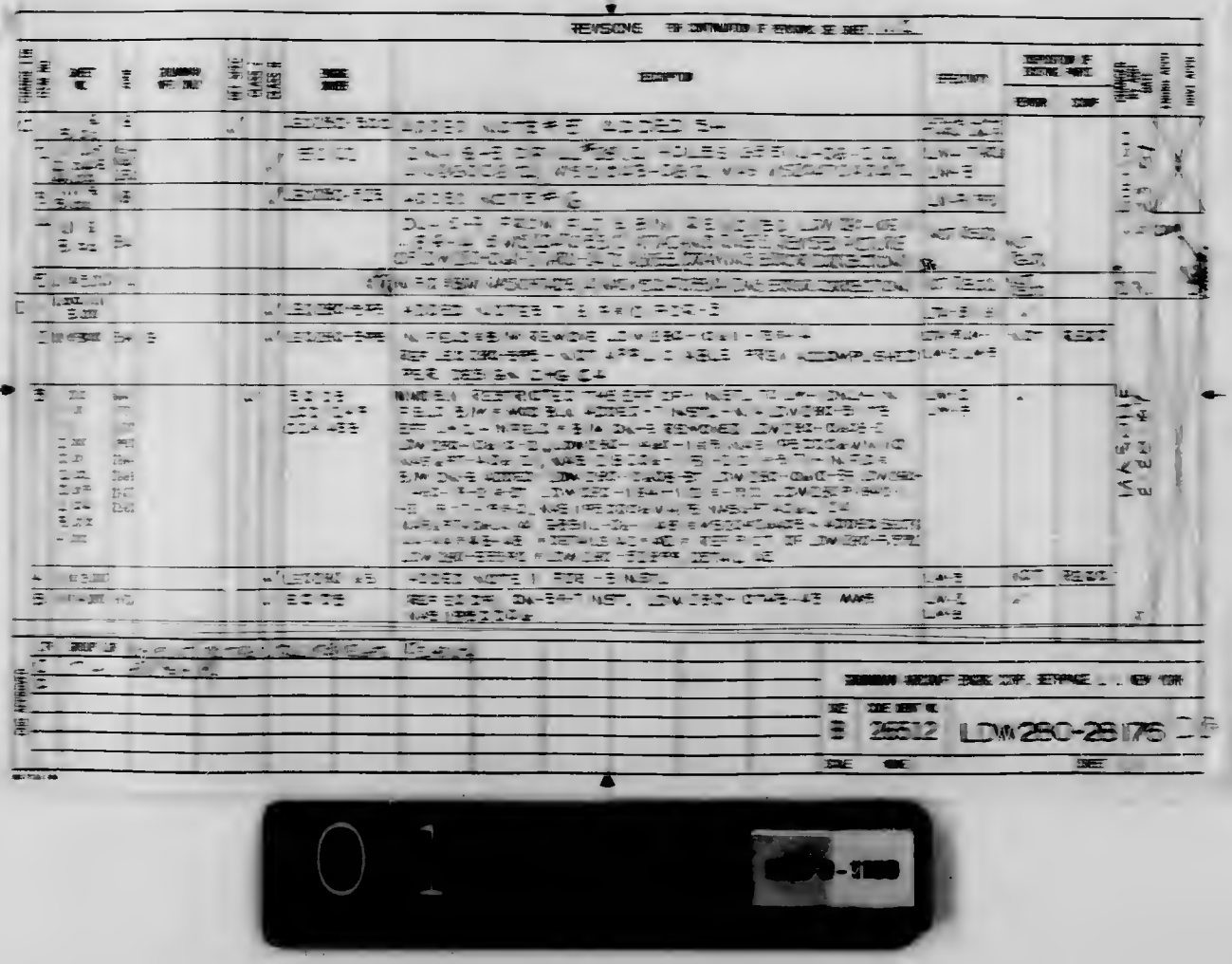
LENGTHS OF AN, MAS & MS AL ALY RIVETS SHORTER THAN 1 INCH ARE NOT SPECIFIED.

TOLERANCE ON LOFTED DELINEATIONS IS

03/03

NAS 9-1100

THIS IS AN ORIGINAL DRAWING

CODE IDENT NO	DWG NO	SH
26512	LDW280-[illegible]173	7

		GRUMMAN AIRCRAFT ENGINEERING CORP., BETHPAGE, L.I., N.Y.	
		SIZE J	CODE IDENT NO 26512
LEM		DWG NO LDW280-[illegible]173	REV
		SCALE NONE	SHEET